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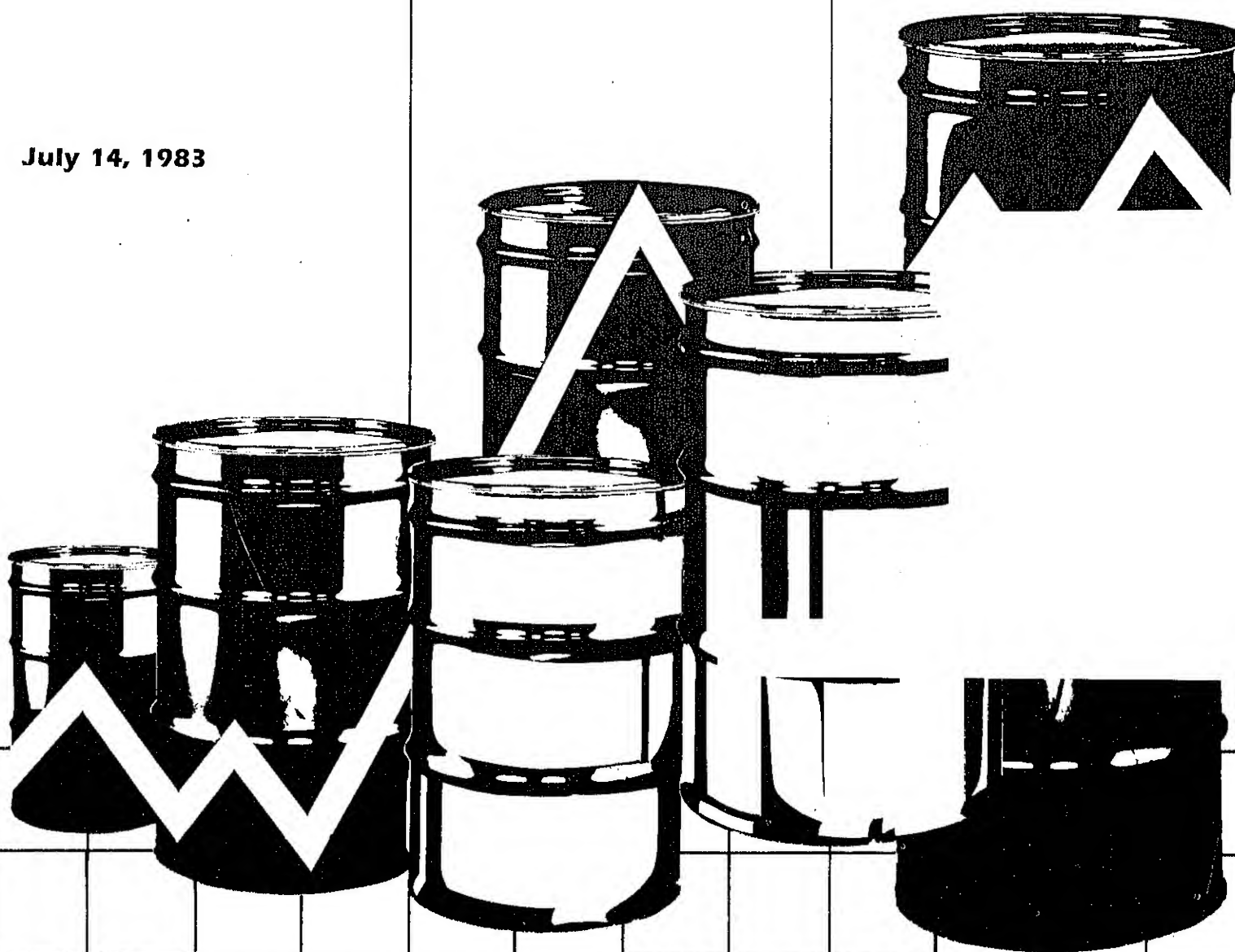
# Weekly Petroleum Status Report

Energy Information Administration  
Washington, D.C.



July 14, 1983

Petroleum Supply Information  
Symposium  
Details Inside



Includes May 1983 Short-Term Energy Outlook  
(See Highlights and Page 2)

The Weekly Petroleum Status Report (WPSR) provides timely information on the petroleum supply situation in the context of historical information, selected prices, and forecasts. The WPSR is intended to provide up-to-date information to the industry, the press, planners, policy-makers, consumers, analysts, and State and local governments. It is published each Friday by the Energy Information Administration. The data contained in this report are based on company submissions for the week ending 7 a.m. the preceding Friday.

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National Energy Information Center, EI-20  
Energy Information Administration  
Forrestal Building  
Room 1F-048  
Washington D.C. 20585  
(202) 252-8800

Superintendent of Documents  
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After 5 p.m. Eastern time on Wednesdays, key statistics from the next morning's issue of the Weekly Petroleum Status Report will be available on DATALINE, EIA's recorded message service. The number is 202/252-6342. After noon Eastern time on Fridays, the message will also contain key statistics from the next Monday's issue of Weekly Coal Production.

If a week contains a Monday, Tuesday or Wednesday holiday, both DATALINE and publication schedules will be delayed one day.

Remember the DATALINE number :  
202/252-6342.

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This report was prepared by the Energy Information Administration, the independent statistical and analytical agency within the Department of Energy. The information contained herein should not be construed as advocating or necessarily reflecting any policy position of the Department of Energy or any other organization.

## Highlights

### Refinery Operations

Crude oil inputs to refineries averaged 12.4 million barrels per day for the four-weeks ending July 8, 1983. Refinery capacity utilization averaged 74.5 percent during the period. During the four-weeks ending July 8, 1983, motor gasoline production averaged 6.7 million barrels a day, and distillate fuel oil production averaged 2.6 million barrels a day.

### Stocks

On July 8, 1983, stocks of crude oil (excluding the Strategic Petroleum Reserve) stood at 349.0 million barrels. Stocks of product stood as follows: total motor gasoline at 222.5 million barrels; distillate fuel oil at 118.5 million barrels; and residual fuel oil at 47.2 million barrels.

### Imports

Net imports of crude oil (including imports for the Strategic Petroleum Reserve) and petroleum products together averaged 4.4 million barrels a day for the four-weeks ending July 8, 1983, about 8 percent below the average a year ago. Gross imports of crude oil (excluding the Strategic Petroleum Reserve) averaged 3.3 million barrels a day for the four-week period ending July 8, 1983.

### Products Supplied

Total petroleum products supplied averaged 15.2 million barrels a day for the four-week period ending July 8, 1983, which is about 2 percent above the rate supplied a year ago. Motor gasoline was supplied at a rate of 6.9 million barrels a day, which is about 1 percent above the rate supplied a year ago. Distillate fuel oil was supplied at a rate of 2.5 million barrels a day, about 5 percent above the rate supplied a year ago.

### World Crude Oil Price

The estimated weighted average international price of crude oil as of July 12, 1983, remains at \$28.72 a barrel.

### Spot Market Product Price

There are no spot market price changes available for the week ending July 8, 1983. Oil Buyer's Guide, the official source of these prices, is not published the week of July 4.

### May 1983 Short-Term Energy Outlook

Declining U.S. petroleum consumption is projected to bottom out in 1983 and then to begin rising again through the first half of 1984. Consumption in 1983 is projected to average 15.1 million barrels per day, slightly lower than in 1982. Most of this decline can be attributed to the extremely mild weather experienced this past winter and continuing conservation on the part of consumers. Based on the assumptions of continued economic recovery and a return to normal weather, consumption in the first half of 1984 is projected to increase by about 6 percent above year-earlier levels.

## History and Base Case Projections, Short-Term Energy Outlook, May 1983

Declining U.S. petroleum consumption is projected to bottom out in 1983 and then to begin rising again through the first half of 1984. Consumption in 1983 is projected to average 15.1 million barrels per day, slightly lower than in 1982. Most of this decline can be attributed to the extremely mild weather experienced this past winter and continuing conservation on the part of consumers. Based on the assumptions of continued economic recovery and a return to normal weather, consumption in the first half of 1984 is projected to increase by about 6 percent above year-earlier levels.

Motor gasoline supplied is projected to be 6.4 million barrels per day in 1983, which is about the same as the 1982 level of 6.5 million barrels per day. Distillate fuel oil supplied in 1983 is projected to remain unchanged at the 1982 level of 2.7 million barrels per day. Residual fuel oil supplied is forecast to fall to 1.6 million barrels per day in 1983. This forecast is based on the assumption that the average cost of imported crude oil to U. S. refiners will remain at the estimated April 1983 level of \$29.43 per barrel throughout the forecast period and the Data Resources, Inc. projection that U. S. Gross National Product will rise by 2.5 percent from 1982 to 1983, then be 4.9 percent above the year-earlier level in the first half of 1984.

### History and Base Case Projections, U. S. Total, Short-Term Energy Outlook, May 1983

	History						Projections						
	1981		1982				1983					1984	
	Annual Average	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Annual Average	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Annual Average	1st Qtr	2nd Qtr
<b>Assumptions</b>													
(Nominal Dollars per Barrel)													
Average Cost of Imported Crude Oil	37.05	35.03	33.13	33.14	33.07	33.55	30.20	29.43	29.43	29.43	29.62	29.43	29.43
(Billion 1972 Dollars)													
Gross National Product	1,503	1,471	1,478	1,481	1,477	1,477	1,489	1,502	1,522	1,540	1,513	1,560	1,578
<b>Forecasts</b>													
(Nominal Dollars per Gallon)													
Petroleum Prices (Retail)													
Motor Gasoline	1.35	1.31	1.24	1.31	1.26	1.28	1.17	1.21	1.24	1.24	1.22	1.23	1.21
Distillate Fuel Oil	1.20	1.19	1.15	1.16	1.20	1.19	1.10	1.09	1.08	1.09	1.09	1.11	1.12
(Million Barrels per Day)													
Crude Oil Production	8.57	8.65	8.66	8.69	8.68	8.67	8.66	8.68	8.65	8.61	8.65	8.59	8.56
Petroleum Products Supplied	16.06	15.79	15.27	14.84	15.12	15.26	15.02	14.61	14.89	15.80	15.08	15.92	15.46
Motor Gasoline	6.59	6.21	6.78	6.65	6.50	6.54	6.29	6.57	6.54	6.33	6.43	6.05	6.36
Distillate Fuel Oil	2.83	3.16	2.63	2.27	2.64	2.67	2.83	2.38	2.29	3.19	2.67	3.36	2.74
Residual Fuel Oil	2.09	2.10	1.64	1.49	1.55	1.70	1.57	1.52	1.61	1.73	1.61	1.98	1.80
Other Petroleum Products <sup>1</sup>	4.55	4.33	4.22	4.43	4.43	4.35	4.32	4.15	4.45	4.55	4.37	4.54	4.56
Total Imports <sup>2</sup>	6.00	4.80	4.77	5.43	5.17	5.04	3.90	4.93	5.68	5.73	5.07	5.87	5.93

<sup>1</sup> Net of reclassified oils.

<sup>2</sup> Includes imports for the Strategic Petroleum Reserve.

**U.S. Petroleum Balance Sheet**  
(Thousands of Barrels per Day)

	Four-Week Averages For Period Ending		Percent Change	Cumulative Daily Averages 188 Days		Percent Change
	07/08/83	07/08/82		1983	1982	
<b>Crude Oil Supply</b>						
(1) Domestic Production <sup>1</sup>	E8,669	8,649	0.2	E8,668	8,633	0.4
(2) Net Imports (Including SPR) <sup>2</sup>	3,432	3,812	-10.0	2,793	3,067	-8.9
(3) Gross Imports (Excluding SPR)	3,283	3,837	-14.4	2,736	3,132	-12.7
(4) SPR Imports	259	103	--	220	167	--
(5) Exports	E110	128	-14.3	E163	232	-29.6
(6) SPR Stocks Withdrawn (+) or Added (-)	-259	-103	--	-217	-183	--
(7) Other Stocks Withdrawn (+) or Added (-)	225	96	--	5	101	--
(8) Products Supplied and Losses <sup>3</sup>	E-70	-66	--	E-69	-67	--
(9) Unaccounted-for Crude	389	94	--	225	116	--
(10) Crude Oil Input to Refineries	12,386	12,482	-0.8	11,406	11,667	-2.2
<b>Other Supply</b>						
(11) NGL Production	E1,513	1,512	0.1	E1,563	1,546	1.1
(12) Other Hydrocarbon Input and Alcohol Input	E40	56	-27.8	E45	48	-5.8
(13) Crude Oil Product Supplied <sup>4</sup>	E69	60	14.2	E67	63	6.1
(14) Processing Gain	588	500	17.8	501	509	-1.7
(15) Net Product Imports <sup>4</sup>	946	943	0.2	811	1,030	-21.3
(16) Gross Product Imports <sup>4</sup>	1,643	1,528	7.5	1,495	1,597	-6.4
(17) Product Exports	E698	585	19.3	E684	567	20.6
(18) Product Stocks Withdrawn (+) or Added (-) <sup>5</sup>	-344	-598	--	549	699	--
(19) Total Product Supplied for Domestic Use	15,197	14,954	1.6	14,941	15,561	-4.0
<b>Products Supplied</b>						
(20) Motor Gasoline	6,907	6,824	1.2	6,494	6,513	-0.3
(21) Naphtha-type Jet Fuel	181	227	-20.3	208	209	-0.2
(22) Kerosene-type Jet Fuel	852	766	11.2	805	802	0.5
(23) Distillate Fuel Oil <sup>3</sup>	2,471	2,354	5.0	2,647	2,866	-7.6
(24) Residual Fuel Oil <sup>3</sup>	1,187	1,513	-21.5	1,448	1,885	-23.1
(25) Other Oils <sup>6</sup>	3,599	3,271	10.0	3,338	3,288	1.5
(26) Total Products Supplied	15,197	14,954	1.6	14,941	15,561	-4.0

Petroleum Stocks (Millions of Barrels)	07/08/83	07/01/83	07/08/82	Percent Change from Previous Week      Year Ago	
Crude Oil (Excluding SPR) <sup>7</sup>	349.0	355.6	344.5	-1.9	NM
Total Motor Gasoline	222.5	221.8	220.2	0.3	NM
Finished Motor Gasoline	185.3	183.5	178.4	1.0	NM
Blending Components	37.2	38.3	41.8	-2.9	NM
Naphtha-type Jet Fuel	6.8	6.6	6.1	3.3	NM
Kerosene-type Jet Fuel	34.4	35.2	33.8	-2.4	NM
Distillate Fuel Oil	118.5	112.0	129.2	5.8	NM
Residual Fuel Oil	47.2	48.6	60.3	-3.0	NM
Unfinished Oils	104.3	107.7	117.9	-3.2	-11.6
Other Oils <sup>8</sup>	E181.4	E179.8	190.9	0.9	NM
Total Stocks (Excluding SPR)	1,064.0	1,067.4	1,102.9	-0.3	NM
Crude Oil in SPR	334.7	332.1	264.8	0.8	26.4
Total Stocks (Including SPR)	1,398.7	1,399.5	1,367.7	-0.1	NM

NM=Not meaningful because of different stock basis. See Appendix D.

E=Estimates based on monthly data.

1 Includes lease condensate.

2 Net Imports = Gross Imports (line 3) + SPR Imports (line 4) - Exports (line 5).

3 In 1983 crude oil burned as fuel is treated as a product and a new category, crude oil product supplied, has been created. In prior years crude oil burned as fuel was treated as a transfer of crude oil to residual and distillate fuel oil product categories and was an element of the product supplied calculations of those products. Product supplied series for distillate and residual fuel oils for 1982, shown in the second and fifth columns of the U.S. Petroleum Balance Sheet have been recalculated without these transfers. See Appendix D. Among the product supplied categories of the balance, crude oil product supplied is included in other oils product supplied.

4 Includes unfinished oils and natural gas plant liquids for processing.

5 Includes an estimate of minor product stock change based on monthly data.

6 Other oils product supplied reflects crude oil product supplied and the reduction for reclassified products.

7 Includes crude oil in transit to refineries.

8 Included are stocks of all other oils such as aviation gasoline, natural gas liquids (including ethane), kerosene, petrochemical feedstocks, special naphthas, lube oils, wax, coke, asphalt, road oil, and miscellaneous oils. For the current two weeks, stocks of these minor products are estimated from monthly data.

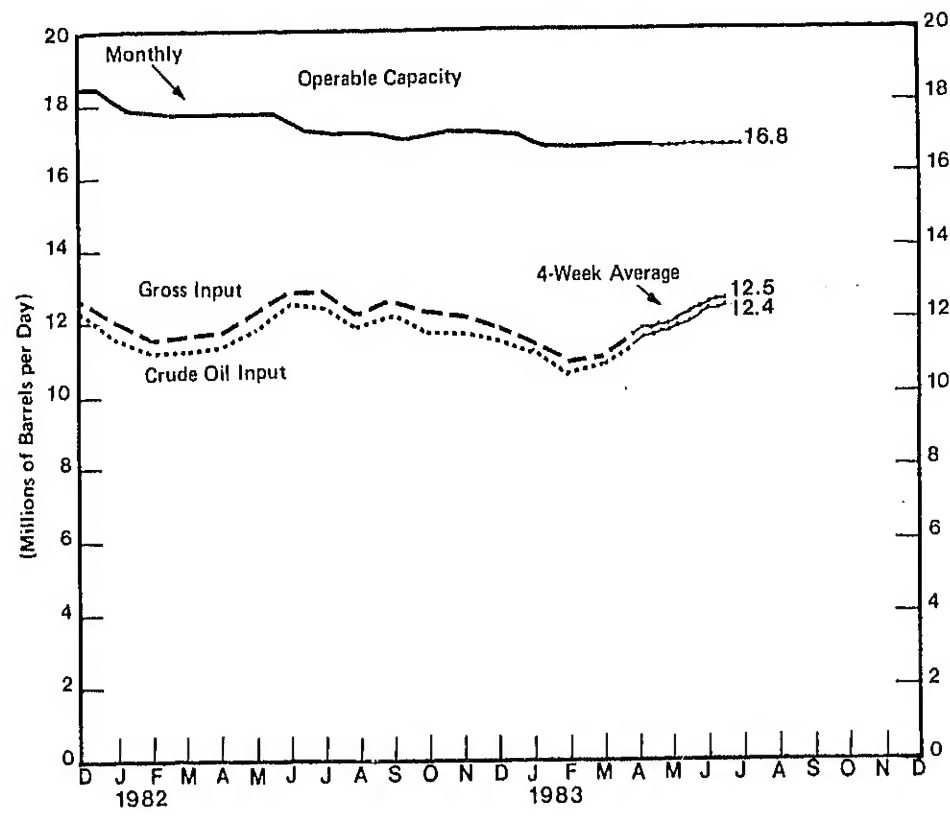
Note: Due to independent rounding, individual product detail may not add to total.

The percentages shown are calculated using unrounded numbers.

SOURCES:

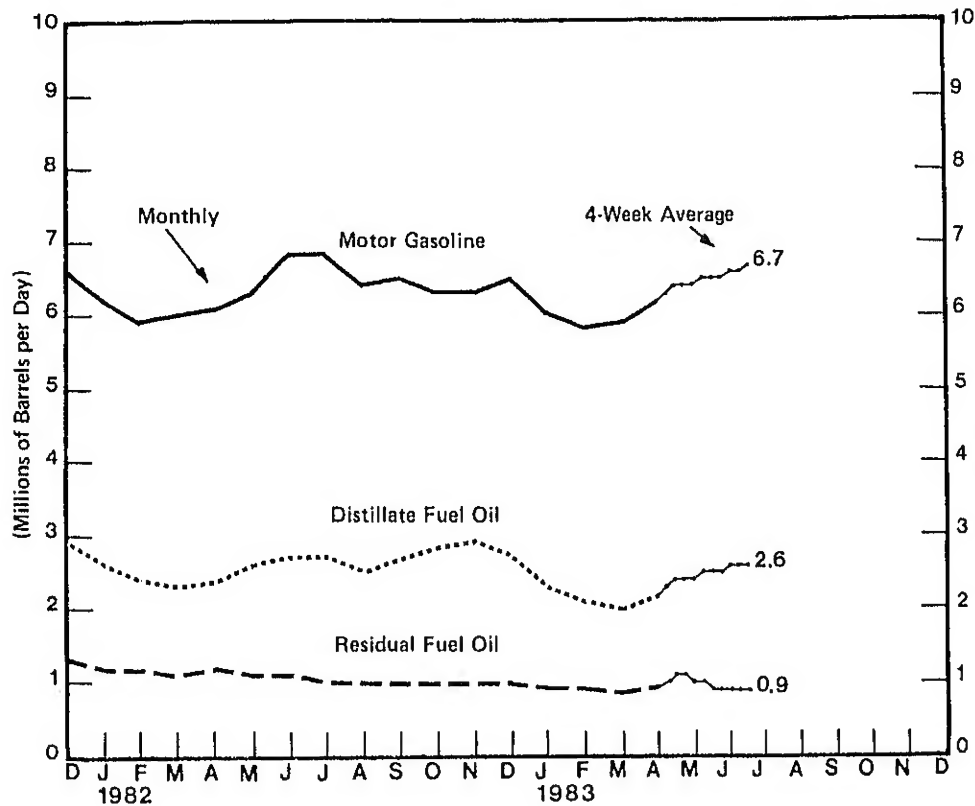
- 1981-1982: EIA, "Petroleum Supply Annual."
- 1983 Monthly Data: EIA, "Petroleum Supply Monthly."
- 1983 Four-Week Averages: Estimates based on EIA weekly data.

Refinery Inputs and Utilization  
(Millions of Barrels per Day)



Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Operable Capacity	17.8	17.8	17.8	17.2	17.2	17.0	17.0	17.0	17.0	17.0	17.0	16.8
Gross Input	12.9	13.2	12.6	12.3	12.6	12.7	12.6	13.2	12.7	12.4	12.6	12.7
Crude Oil Input	11.6	11.2	11.3	11.4	11.8	12.5	12.4	11.9	12.1	11.7	11.7	11.5
4-Week Average												
Inputs	18.6	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.6	18.4	18.4	18.4
Utilization	72.5	70.8	67.7	65.7	67.2	68.1	67.4	70.6	68.4	67.0	68.2	69.2
Inputs	11.6	11.2	11.3	11.4	11.8	12.5	12.4	11.9	12.1	11.7	11.7	11.5
Utilization	67.0	65.1	65.5	66.2	68.8	74.9	74.9	71.0	73.9	70.6	70.6	69.7

Refinery Production by Product  
(in Millions of Barrels per Day)



Product	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Motor Gasoline	6.7	6.3	6.2	6.1	6.1	6.2	6.4	6.6	6.6	6.4	6.6	6.6
Distillate Fuel Oil	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	1.0	0.9
Residual Fuel Oil	3.0	2.8	2.5	2.4	2.5	2.5	2.4	2.7	2.6	2.5	2.7	2.9
	1.6	1.6	1.4	1.3	1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.3
Motor Gasoline	6.2	5.9	6.0	6.1	6.3	6.8	6.8	6.4	6.5	6.3	6.3	6.5
Distillate Fuel Oil	0.9	1.0	1.1	1.0	0.9	0.9	1.0	1.0	1.0	1.0	1.0	0.9
Residual Fuel Oil	2.6	2.4	2.3	2.4	2.6	2.7	2.7	2.5	2.7	2.8	2.9	2.7
	1.2	1.2	1.1	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
Motor Gasoline	6.0	5.8	5.9	6.2								
Distillate Fuel Oil	1.0	1.0	1.0	1.0								
Residual Fuel Oil	2.3	2.1	2.0	2.2								
	0.9	0.9	0.8	0.9								
for Four-Week Period Ending:												
	5/6	5/13	5/20	5/27	6/3	6/10	6/17	6/24	7/1	7/8		
Motor Gasoline	6.3	6.4	6.4	6.4	6.5	6.5	6.5	6.6	6.6	6.7		
Distillate Fuel Oil	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
Residual Fuel Oil	2.3	2.4	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.6		
	1.0	1.1	1.1	1.0	1.0	0.9	0.9	0.9	0.9	0.9		

Production statistics represent net production (i.e., refinery output minus refinery input).  
 • Monthly Data: 1981-1982, EIA, "Petroleum Supply Annual," 1983, EIA, "Petroleum Supply Monthly."  
 • Four-Week Averages: Estimates based on EIA weekly data.

# Stocks of Crude Oil and Petroleum Products,<sup>1</sup> U.S. Totals (Millions of Barrels)

Year/Product	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>1981</b>												
Crude Oil <sup>2</sup>	374.0	378.2	393.0	397.5	393.7	384.7	385.9	362.0	356.0	364.0	366.0	363.5
Motor Gasoline	276.1	284.0	285.0	272.1	258.3	241.6	227.7	233.3	237.1	236.1	248.4	253.0
Finished Gasoline	226.3	229.6	232.1	223.2	212.6	194.0	185.7	188.6	190.7	190.5	200.6	203.4
Blending Components	49.8	54.4	52.9	48.9	45.7	47.6	42.0	44.7	46.4	45.6	47.8	49.5
Jet Fuel	39.5	38.6	39.0	40.4	44.5	44.9	44.8	44.7	43.1	42.7	42.0	41.1
Distillate Fuel Oil	179.4	172.5	164.3	164.6	171.8	179.9	186.3	200.2	207.3	201.2	200.1	191.5
Residual Fuel Oil	82.1	77.9	74.8	72.9	78.1	69.4	69.3	74.9	80.2	79.9	81.4	78.0
Unfinished Oils	121.5	122.3	126.2	126.5	126.3	126.1	126.1	124.5	118.4	119.5	116.4	111.3
Other Oils	202.7	199.1	198.1	206.5	208.5	220.5	225.4	232.8	234.6	226.7	224.6	214.9
Total Stocks (Excl. SPR)	1,275.3	1,272.5	1,280.3	1,280.5	1,288.3	1,267.1	1,265.4	1,272.5	1,276.7	1,270.0	1,278.9	1,253.3
Crude Oil in SPR	112.5	116.1	120.9	134.2	150.1	163.1	173.1	184.7	199.2	214.8	222.5	230.3
Total Stocks (Incl. SPR)	1,387.8	1,388.5	1,401.2	1,414.8	1,438.3	1,430.2	1,438.5	1,457.2	1,476.0	1,484.8	1,501.5	1,483.6
<b>1982</b>												
Crude Oil <sup>2</sup>	371.0	371.8	360.7	354.8	348.5	344.1	345.7	352.9	340.7	351.0	357.6	349.7
Motor Gasoline	260.8	256.6	246.5	221.3	213.9	218.5	225.9	226.9	233.6	234.4	230.0	235.4
Finished Gasoline	213.2	208.4	198.1	178.6	173.1	177.1	182.7	185.2	191.1	192.4	189.3	194.4
Blending Components	47.6	48.3	48.5	42.7	40.8	41.4	43.2	41.8	42.5	42.0	40.7	40.9
Jet Fuel	36.9	36.9	42.5	44.1	41.7	39.9	39.8	40.7	39.6	40.9	40.6	36.8
Distillate Fuel Oil	164.4	147.4	126.3	108.0	113.6	123.7	148.1	158.7	161.2	170.1	185.6	178.6
Residual Fuel Oil	68.7	58.5	58.1	53.6	59.0	60.7	58.9	52.6	61.8	63.6	66.4	66.2
Unfinished Oils	115.9	116.5	115.9	119.1	118.2	118.0	117.8	116.8	117.8	113.3	111.8	105.3
Other Oils	203.0	199.1	193.3	189.2	190.8	191.1	190.1	186.4	181.3	174.6	173.3	164.1
Total Stocks (Excl. SPR)	1,220.6	1,186.9	1,143.4	1,090.0	1,085.7	1,096.0	1,126.3	1,134.9	1,136.1	1,147.8	1,165.2	1,136.1
Crude Oil in SPR	235.3	241.2	248.5	255.5	261.0	264.1	267.2	273.6	277.9	284.6	290.0	293.8
Total Stocks (Incl. SPR)	1,455.9	1,428.2	1,391.9	1,345.6	1,346.7	1,360.2	1,393.5	1,408.5	1,414.0	1,432.4	1,455.2	1,429.9
<b>1983<sup>3</sup></b>												
Crude Oil <sup>2</sup>	360.9	366.0	368.6	365.8								
Motor Gasoline	250.9	251.1	224.0	220.8								
Finished Gasoline	208.3	207.4	183.7	182.9								
Blending Components	42.6	43.8	40.3	37.9								
Jet Fuel	41.7	40.5	42.2	40.3								
Distillate Fuel Oil	168.2	147.4	118.7	103.2								
Residual Fuel Oil	60.7	53.1	46.3	46.6								
Unfinished Oils	110.3	108.3	111.3	114.1								
Other Oils	159.6	159.3	162.5	167.2								
Total Stocks (Excl. SPR)	1,152.2	1,125.7	1,063.6	1,057.9								
Crude Oil in SPR	300.6	306.1	311.8	317.7								
Total Stocks (Incl. SPR)	1,452.8	1,431.9	1,375.4	1,375.7								
<b>Week Ending: 1983<sup>3</sup></b>	<b>5/6</b>	<b>5/13</b>	<b>5/20</b>	<b>5/27</b>	<b>6/3</b>	<b>6/10</b>	<b>6/17</b>	<b>6/24</b>	<b>7/1</b>	<b>7/8</b>		
Crude Oil <sup>2</sup>	365.6	365.0	367.8	365.4	356.5	355.3	354.7	353.5	355.6	349.0		
Motor Gasoline	223.6	222.7	221.8	221.0	219.3	218.8	222.2	220.3	221.8	222.6		
Finished Gasoline	187.1	186.8	186.1	186.4	184.1	184.4	185.8	183.8	183.5	185.3		
Blending Components	36.5	35.8	35.7	34.6	35.2	34.3	36.4	36.4	38.3	37.2		
Jet Fuel	40.8	41.2	40.1	41.6	41.5	40.7	41.8	42.0	41.8	41.2		
Distillate Fuel Oil	102.8	105.4	105.7	108.2	106.5	110.9	110.5	110.2	112.0	118.6		
Residual Fuel Oil	46.2	48.0	47.9	47.8	48.8	46.6	46.7	44.8	48.6	47.2		
Unfinished Oils	111.7	110.4	108.6	107.7	107.5	109.2	107.9	107.7	107.7	104.3		
Other Oils <sup>4</sup>	E169.6	E171.5	E173.4	E176.6	E178.3	E179.3	E180.4	E178.9	E179.8	E181.4		
Total Stocks (Excl. SPR)	1,060.3	1,064.2	1,065.2	1,068.5	1,058.5	1,060.7	1,064.2	1,057.3	1,067.4	1,064.0		
Crude Oil in SPR	319.2	320.7	324.1	325.7	326.8	327.4	328.0	330.1	332.1	334.7		
Total Stocks (Incl. SPR)	1,379.5	1,384.9	1,389.3	1,394.2	1,385.3	1,388.1	1,392.1	1,387.4	1,399.5	1,398.7		

E=Estimated. See definition of "Stock Change (Refined Products)" for explanation of other oils estimate methodology.

<sup>1</sup> Product stocks include those stocks held at refineries, in pipelines, and at major bulk terminals. Stocks held at natural gas processing plants are included in "Other Oils" and in totals. All stock levels are as of the end of the period.

<sup>2</sup> Crude oil stocks include those stocks held at refineries, in pipelines, in lease tanks, and in transit to refineries, and do not include those held in the Strategic Petroleum Reserve.

<sup>3</sup> Appendix D for explanation of the 1983 new stock basis.

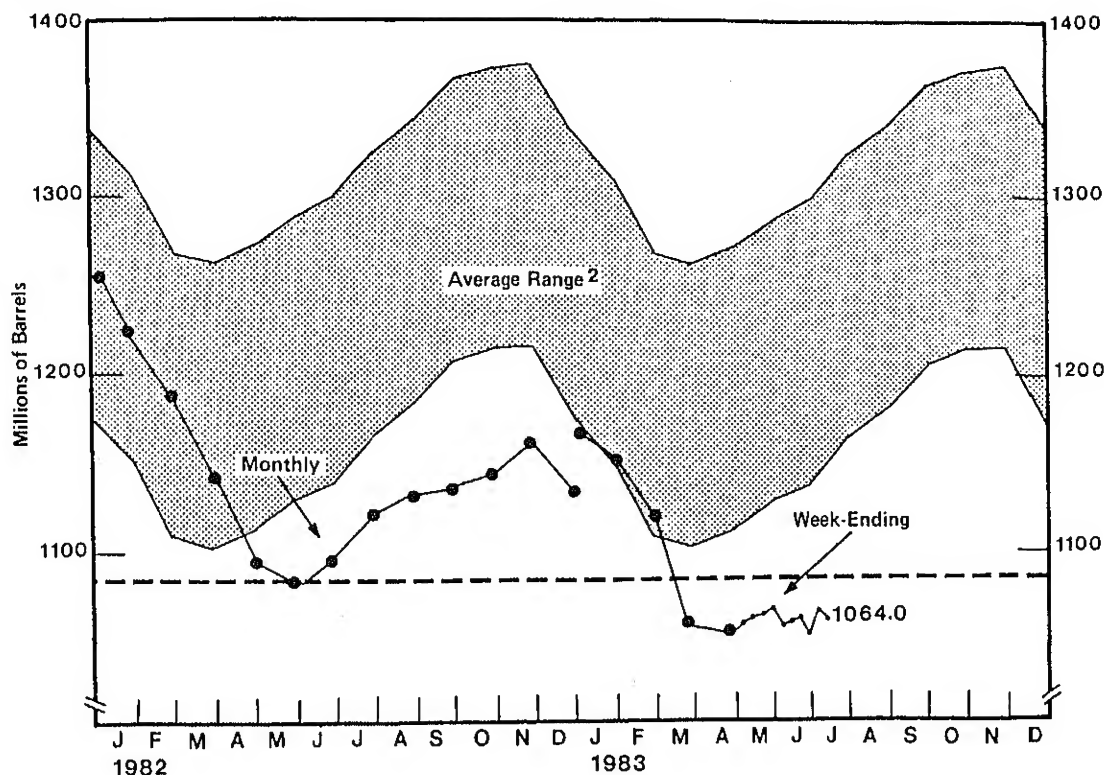
totals for stocks of other oils are estimated using monthly data. Other oils include kerosene, aviation gasoline, natural gas liquids including ethane, petrochemical feedstocks, gas, lube oil, wax, coke, asphalt, road oil, and miscellaneous oils.

Monthly Data: 1981-1982, EIA, "Petroleum Supply Annual," 1983, EIA, "Petroleum Supply Monthly."

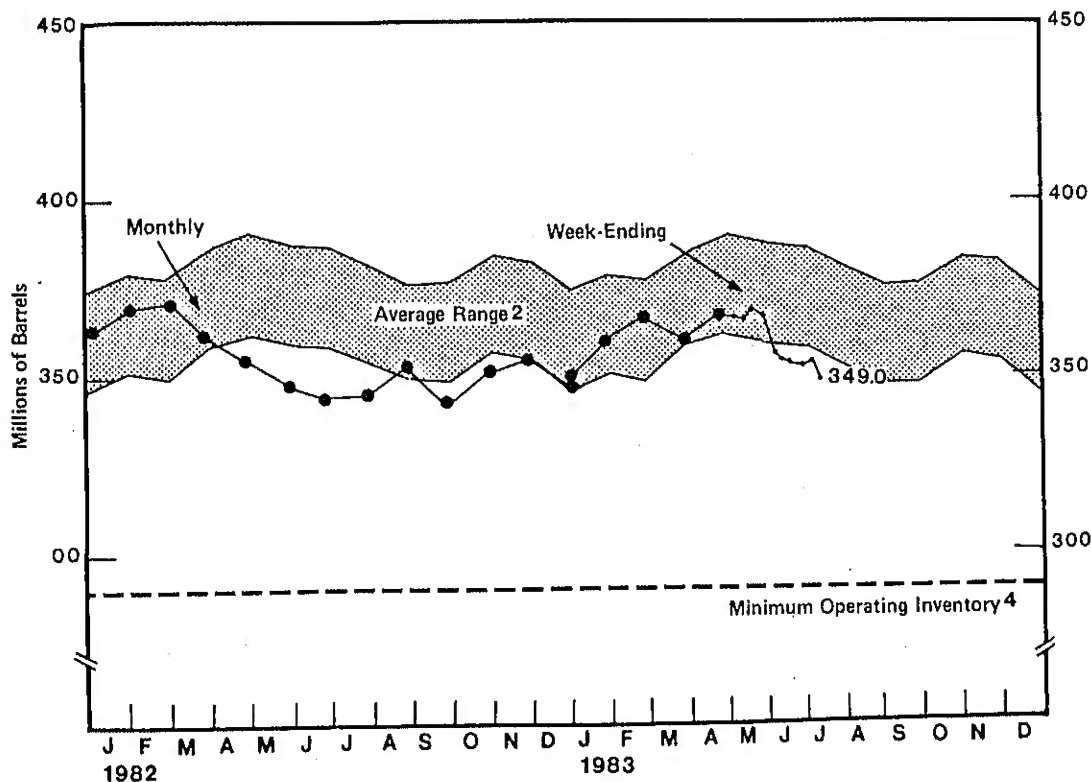
<sup>4</sup> Week-Ending Stocks: Estimates based on EIA weekly data.



Stocks of Crude Oil and Petroleum Products, U.S. Total<sup>1</sup>  
(Millions of Barrels)



Stocks of Crude Oil, U.S. Total<sup>1</sup>  
(Millions of Barrels)



<sup>1</sup> Excludes stocks held in the Strategic Petroleum Reserve and includes crude oil in transit to refineries. See Appendix D for explanation of the 1983 new stock basis.  
<sup>2</sup> Average level, width of average range, and observed minimum are based on three years of monthly data: January 1980–December 1982. The seasonal pattern is based on seven years of monthly data: January 1975–December 1981. See Appendix B for further explanation.  
<sup>3</sup> The observed minimum for total stocks in the last three-year period January 1980–December 1982, was 1085.7 million barrels. It occurred in May 1982. See Appendix B for further explanation.  
<sup>4</sup> The National Petroleum Council defines the Minimum Operating Inventory as the minimum level required for routine operation. In their 1979 study, they defined this inventory level for crude oil to be 290 million barrels. See Appendix B for further explanation. The 1979 study is currently under review.  
 Source: • Ranges and Seasonal Patterns: 1975–1980, EIA, "Petroleum Statement, Annual (Final Summary)," 1981, EIA, "Petroleum Supply Annual."  
 • Monthly Data: 1981–1982, EIA, "Petroleum Supply Annual," 1983, EIA, "Petroleum Supply Monthly."  
 • Week-Ending Stocks: Estimates based on EIA weekly data.

Stocks of Motor Gasoline by Petroleum Administration for Defense District  
(Millions of Barrels)

Year/District	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>1981</b>												
Finished Gasoline	226.3	229.6	232.1	223.2	212.6	194.0	185.7	188.6	190.7	190.5	200.6	203.4
Blending Components	49.8	54.4	52.9	48.9	45.7	47.6	42.0	44.7	46.4	45.6	47.8	49.5
Total Gasoline	276.1	284.0	285.0	272.1	258.3	241.6	227.7	233.3	237.1	236.1	248.4	253.0
East Coast (PAD 1)	71.7	74.2	79.5	77.9	73.1	69.5	62.7	64.3	69.6	69.6	69.7	69.5
Midwest (PAD 2)	86.0	90.4	89.7	84.2	80.1	72.4	65.9	66.7	65.3	66.0	69.2	72.6
Gulf Coast (PAD 3)	77.2	79.6	78.5	76.2	72.2	65.9	64.0	68.6	68.5	65.0	70.6	69.5
Rocky Mountain (PAD 4)	9.7	10.3	10.2	9.4	8.6	7.4	6.5	6.0	5.8	6.3	7.7	8.5
West Coast (PAD 5)	31.5	29.5	26.9	24.4	24.3	26.3	28.6	27.8	27.9	29.2	31.2	32.9
<b>1982</b>												
Finished Gasoline	213.2	208.4	198.1	178.6	173.1	177.1	182.7	185.2	191.1	192.4	189.3	194.4
Blending Components	47.6	48.3	48.5	42.7	40.8	41.4	43.2	41.8	42.5	42.0	40.7	40.9
Total Gasoline	260.8	256.6	246.6	221.3	213.9	218.5	225.9	226.9	233.6	234.4	230.0	235.4
East Coast (PAD 1)	71.9	69.7	66.8	61.4	63.6	65.5	63.1	62.5	63.5	63.5	66.1	67.5
Midwest (PAD 2)	77.7	78.4	74.0	62.7	56.1	56.4	62.8	65.8	69.3	67.0	64.0	65.3
Gulf Coast (PAD 3)	70.2	69.3	68.0	63.2	63.5	64.9	66.0	65.2	67.5	69.8	65.5	66.2
Rocky Mountain (PAD 4)	9.6	9.9	10.1	9.0	7.7	6.5	5.8	5.5	5.7	6.5	7.1	8.5
West Coast (PAD 5)	31.4	29.3	27.6	25.0	23.2	25.3	28.1	27.9	27.7	27.6	27.2	27.9
<b>1983<sup>1</sup></b>												
Finished Gasoline	208.3	207.4	183.7	182.9								
Blending Components	42.6	43.8	40.3	37.9								
Total Gasoline	250.9	251.1	224.0	220.8								
East Coast (PAD 1)	69.9	66.0	55.4	60.8								
Midwest (PAD 2)	75.3	77.2	68.3	65.4								
Gulf Coast (PAD 3)	65.0	66.6	66.3	62.7								
Rocky Mountain (PAD 4)	9.4	9.4	8.3	7.9								
West Coast (PAD 5)	31.3	31.9	25.8	24.1								
<b>Week Ending:</b>												
<b>1983<sup>1</sup></b>	<b>5/6</b>	<b>5/13</b>	<b>5/20</b>	<b>5/27</b>	<b>6/3</b>	<b>6/10</b>	<b>6/17</b>	<b>6/24</b>	<b>7/1</b>	<b>7/8</b>		
Finished Gasoline	187.1	186.8	186.1	186.4	184.1	184.4	185.8	183.8	183.5	185.3		
Blending Components	36.5	35.8	35.7	34.6	35.2	34.3	36.4	36.4	38.3	37.2		
Total Gasoline	223.6	222.7	221.8	221.0	219.3	218.8	222.2	220.3	221.8	222.5		
East Coast (PAD 1)	62.4	62.3	63.9	63.8	62.0	64.1	64.7	62.5	62.7	61.3		
Midwest (PAD 2)	66.1	64.3	64.6	63.8	62.6	62.8	64.2	63.2	63.5	63.8		
Gulf Coast (PAD 3)	63.0	63.7	61.9	63.0	63.5	60.7	62.2	62.7	63.7	64.1		
Rocky Mountain (PAD 4)	7.4	7.0	7.0	6.9	7.0	7.2	7.2	6.9	6.8	6.5		
West Coast (PAD 5)	24.7	25.4	24.2	23.6	24.2	24.0	23.9	24.9	25.2	26.8		

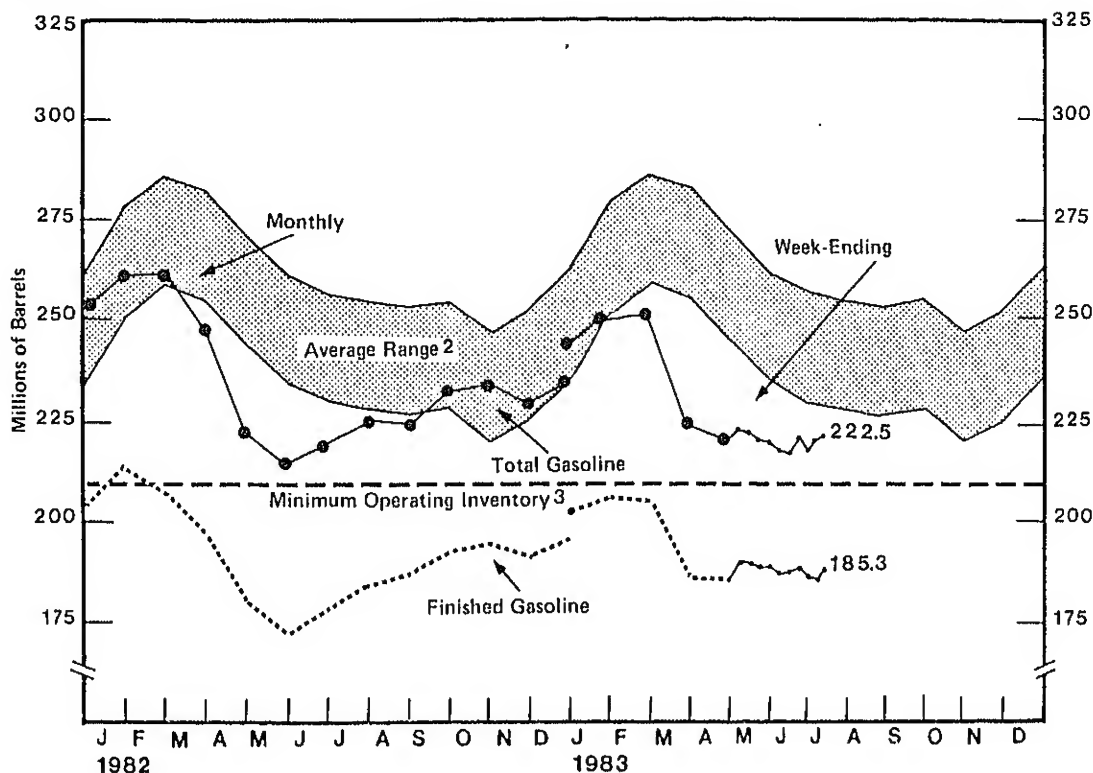
<sup>1</sup> See Appendix D for explanation of the 1983 new stock basis.

Note: PAD district data may not add to total due to independent rounding.

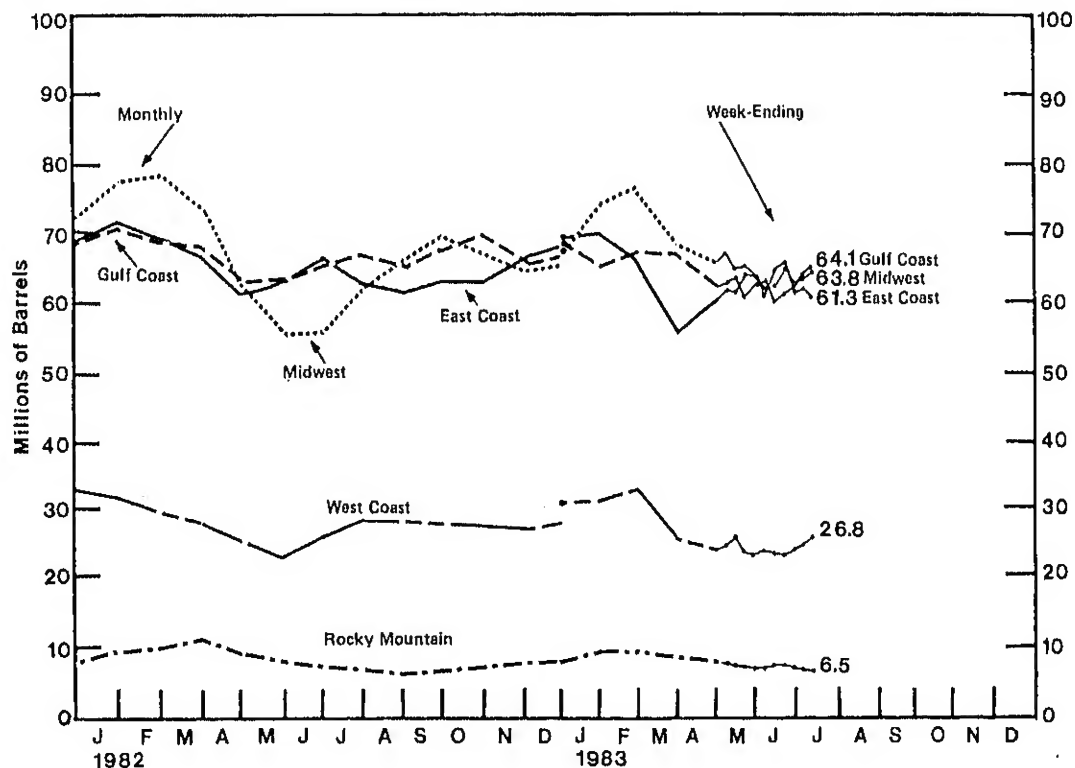
Source: • Monthly Data: 1981-1982, EIA, "Petroleum Supply Annual," 1983, EIA, "Petroleum Supply Monthly."

• Week-Ending Stocks: Estimates based on EIA weekly data.

Stocks of Motor Gasoline, U.S. Total<sup>1</sup>  
(Millions of Barrels)



Stocks of Motor Gasoline by Petroleum Administration for Defense District<sup>1</sup>  
(Millions of Barrels)



<sup>1</sup> See Appendix D for further explanation of the 1983 new stock basis.

<sup>2</sup> Average level and width of average range for total motor gasoline are based on three years of monthly data: January 1980–December 1982. The seasonal pattern is based on six years of monthly January 1975–December 1976 and January 1978–December 1981. See Appendix B for further explanation.

<sup>3</sup> The National Petroleum Council defines the Minimum Operating Inventory as the minimum level required for routine operation. In their 1979 study, they defined this inventory level for total motor gasoline to be 210 million barrels. See Appendix B for further explanation. The 1979 study is currently under review.

Source: • Ranges and Seasonal Patterns 1975–1980, EIA, "Petroleum Statement, Annual (Final Summary)," 1981, EIA, "Petroleum Supply Annual."

• Monthly Data: 1981–1982, EIA, "Petroleum Supply Annual," 1983, "Petroleum Supply Monthly."

• Week-Ending Stocks: Estimates based on EIA weekly data.

Stocks of Distillate Fuel Oil by Petroleum Administration for Defense District  
(Millions of Barrels)

Year/District	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>1981</b>												
Total U.S.	179.4	172.5	164.3	164.6	171.8	179.9	186.3	200.2	207.3	201.2	200.1	191.5
East Coast (PAD 1)	71.9	69.8	64.7	64.4	68.2	73.8	81.3	86.3	92.0	94.8	96.0	87.4
Midwest (PAD 2)	57.7	56.1	52.5	52.4	50.5	48.7	49.8	54.1	54.3	51.0	51.6	50.0
Gulf Coast (PAD 3)	34.0	32.3	32.4	34.7	39.2	42.9	40.7	44.5	44.8	39.8	36.7	35.5
Rocky Mountain (PAD 4)	3.4	3.3	3.3	2.9	3.2	3.4	3.7	3.8	3.6	3.3	3.6	3.9
West Coast (PAD 5)	12.4	11.1	11.4	10.3	10.7	11.1	10.8	11.4	12.5	12.3	12.3	14.7
<b>1982</b>												
Total U.S.	164.4	147.4	126.3	108.0	113.6	123.7	148.1	158.7	161.2	170.1	185.6	178.6
East Coast (PAD 1)	68.3	60.3	44.7	35.0	39.1	44.2	57.4	63.9	68.0	75.7	88.7	80.6
Midwest (PAD 2)	46.7	43.1	39.5	30.8	30.8	33.7	42.6	45.5	45.6	44.2	45.3	47.0
Gulf Coast (PAD 3)	31.0	26.8	27.6	28.5	31.1	32.6	34.1	35.6	34.0	37.0	36.9	34.2
Rocky Mountain (PAD 4)	4.1	3.9	3.7	3.1	2.8	3.0	3.4	3.5	3.5	3.5	3.5	4.0
West Coast (PAD 5)	14.2	13.3	10.8	10.5	9.8	10.2	10.6	10.2	10.1	9.6	11.3	12.7
<b>1983<sup>1</sup></b>												
Total U.S.	168.2	147.4	118.7	103.2								
East Coast (PAD 1)	71.1	55.3	38.1	31.8								
Midwest (PAD 2)	47.2	46.4	39.0	33.3								
Gulf Coast (PAD 3)	31.7	28.9	27.2	26.0								
Rocky Mountain (PAD 4)	4.1	4.0	3.3	2.8								
West Coast (PAD 5)	14.1	12.8	11.1	9.4								
<b>Week Ending:</b>												
<b>1983<sup>1</sup></b>	<b>5/6</b>	<b>5/13</b>	<b>5/20</b>	<b>5/27</b>	<b>6/3</b>	<b>6/10</b>	<b>6/17</b>	<b>6/24</b>	<b>7/1</b>	<b>7/8</b>		
Total U.S.	102.8	105.4	105.7	108.2	106.5	110.9	110.5	110.2	112.0	118.5		
East Coast (PAD 1)	31.3	33.2	33.9	34.7	36.2	37.2	37.8	39.0	39.4	43.3		
Midwest (PAD 2)	33.2	32.6	31.3	31.0	30.0	29.6	29.4	28.8	29.1	29.9		
Gulf Coast (PAD 3)	27.2	28.1	29.2	30.7	28.3	31.2	30.5	29.6	30.7	31.8		
Rocky Mountain (PAD 4)	2.4	2.5	2.4	2.5	2.6	2.6	2.6	2.7	2.6	2.8		
West Coast (PAD 5)	8.6	9.0	8.8	9.3	9.4	10.3	10.2	10.1	10.2	10.7		

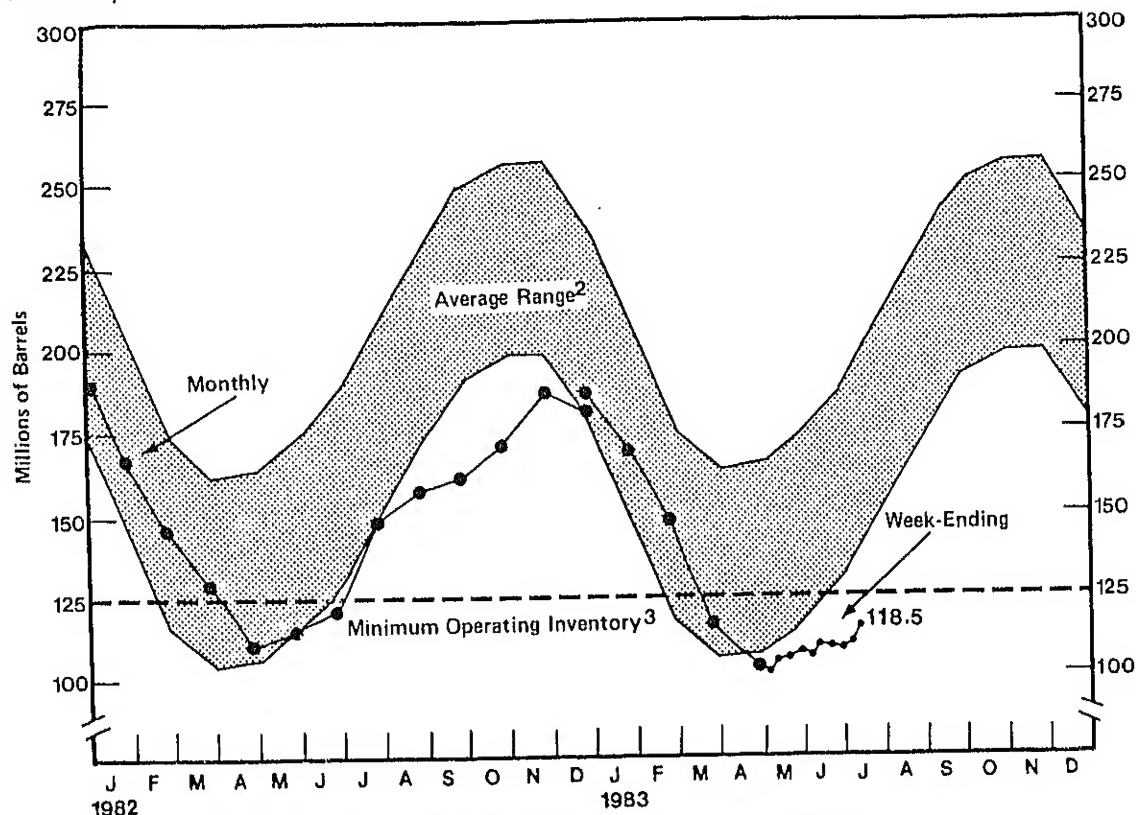
<sup>1</sup> See Appendix D for explanation of the 1983 new stock basis.

Note: PAD district data may not add to total due to independent rounding.

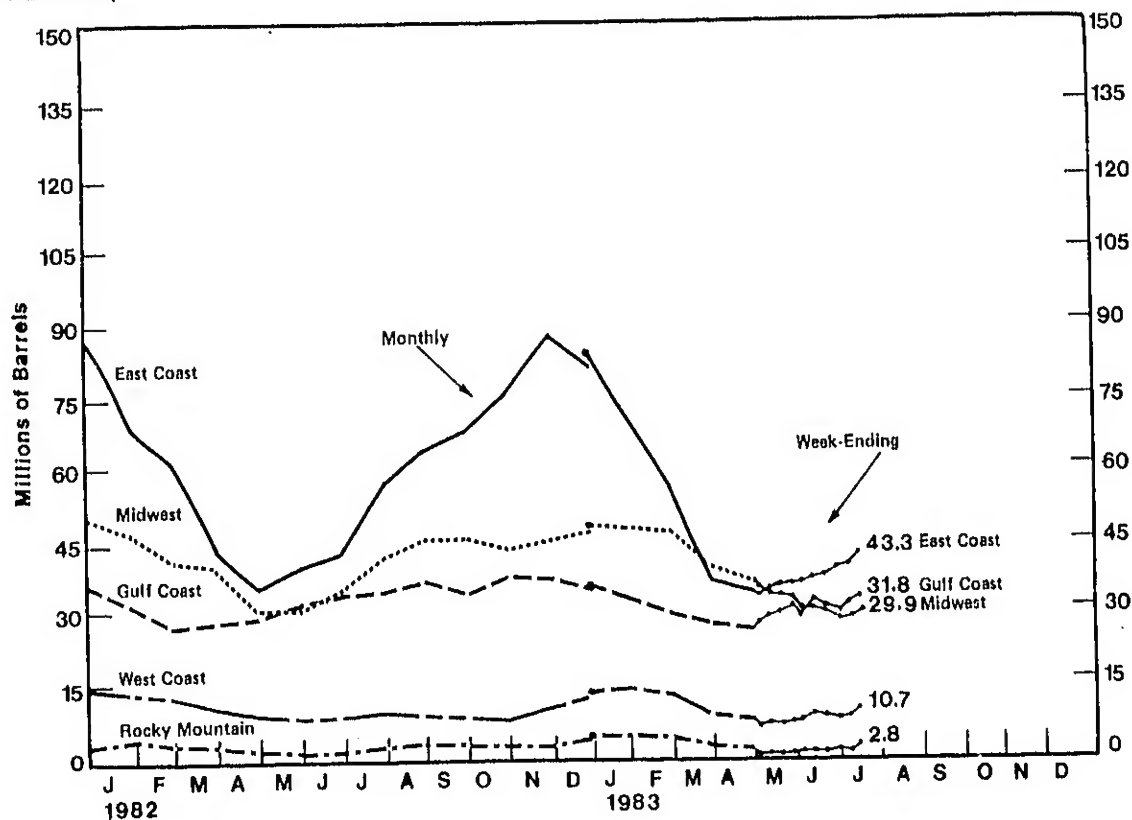
Source: • Monthly Data: 1981-1982, EIA, "Petroleum Supply Annual," 1983, EIA, "Petroleum Supply Monthly."

• Week-Ending Stocks: Estimates based on EIA weekly data.

**Stocks of Distillate Fuel Oil, U.S. Total<sup>1</sup>**  
(Millions of Barrels)



**Stocks of Distillate Fuel Oil by Petroleum Administration for Defense District<sup>1</sup>**  
(Millions of Barrels)



<sup>1</sup> See Appendix D for explanation of the 1983 new stock basis.

<sup>2</sup> Average level and width of average range are based on three years of monthly data: January 1980–December 1982. The seasonal pattern is based on seven years of monthly data: January 1976–December 1981. See Appendix B for further explanation.

<sup>3</sup> The National Petroleum Council defines the Minimum Operating Inventory as the minimum level required for routine operation. In their 1979 study, they defined this inventory level for distillate fuel oil to be 125 million barrels. See Appendix B for further explanation. The 1979 study is currently under review.

Source: • Ranges and Seasonal Patterns 1975–1980, EIA, "Petroleum Statement Annual (Final Summary)," 1981, EIA, "Petroleum Supply Annual."

• Monthly data: 1981–1982, EIA, "Petroleum Supply Annual," 1983, EIA, "Petroleum Supply Monthly."

• Week-Ending Stocks: Estimates based on EIA weekly data.

Stocks of Residual Fuel Oil by Petroleum Administration for Defense District  
(Millions of Barrels)

Year/District	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>1981</b>												
Total U.S.	82.1	77.9	74.8	72.9	78.1	69.4	69.3	74.9	80.2	79.9	81.4	78.0
East Coast (PAD 1)	39.0	38.5	37.3	36.3	38.2	33.6	33.0	34.4	40.0	40.4	43.0	40.1
Midwest (PAD 2)	9.2	9.0	7.9	7.3	7.1	7.0	7.7	8.1	8.5	8.0	8.2	8.3
Gulf Coast (PAD 3)	21.8	19.7	19.4	19.1	21.7	17.0	17.4	21.2	20.4	20.4	19.7	18.7
Rocky Mountain (PAD 4)	0.8	0.7	0.6	0.5	0.6	0.6	0.5	0.6	0.7	0.7	0.7	0.7
West Coast (PAD 5)	11.4	10.1	9.7	9.7	10.5	11.2	10.7	10.7	10.7	10.4	9.8	10.2
<b>1982</b>												
Total U.S.	68.7	58.5	58.1	53.6	59.0	60.7	58.9	52.6	61.8	63.6	66.4	66.2
East Coast (PAD 1)	32.2	25.0	25.0	23.4	28.3	28.2	27.1	23.1	29.0	32.8	36.4	34.7
Midwest (PAD 2)	7.7	7.3	7.0	6.2	6.0	5.6	5.7	5.2	5.7	5.1	5.0	5.2
Gulf Coast (PAD 3)	17.7	14.7	14.7	13.5	15.0	17.1	16.4	15.5	16.2	15.6	16.1	16.3
Rocky Mountain (PAD 4)	0.6	0.7	0.6	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.6
West Coast (PAD 5)	10.3	10.8	10.9	10.0	9.2	9.3	9.3	8.4	10.4	9.6	8.4	9.3
<b>1983<sup>1</sup></b>												
Total U.S.	60.7	53.1	46.3	46.6								
East Coast (PAD 1)	29.9	25.1	20.6	20.3								
Midwest (PAD 2)	5.0	4.5	3.6	3.4								
Gulf Coast (PAD 3)	16.3	14.0	12.8	13.4								
Rocky Mountain (PAD 4)	0.5	0.4	0.4	0.5								
West Coast (PAD 5)	9.0	9.1	8.9	9.0								
<b>Week Ending:</b>												
<b>1983<sup>1</sup></b>	<b>5/6</b>	<b>5/13</b>	<b>5/20</b>	<b>5/27</b>	<b>6/3</b>	<b>6/10</b>	<b>6/17</b>	<b>6/24</b>	<b>7/1</b>	<b>7/8</b>		
Total U.S.	46.2	48.0	47.9	47.8	48.8	46.6	46.7	44.8	48.6	47.2		
East Coast (PAD 1)	19.1	19.7	20.8	20.8	22.0	21.3	21.4	21.5	23.6	22.6		
Midwest (PAD 2)	4.2	4.3	4.1	4.0	3.7	3.8	4.0	3.9	4.2	3.9		
Gulf Coast (PAD 3)	13.3	13.5	12.9	13.2	14.4	13.4	13.7	11.8	13.0	12.1		
Rocky Mountain (PAD 4)	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6		
West Coast (PAD 5)	8.9	9.9	9.4	9.1	8.0	7.4	7.0	6.9	7.2	7.9		

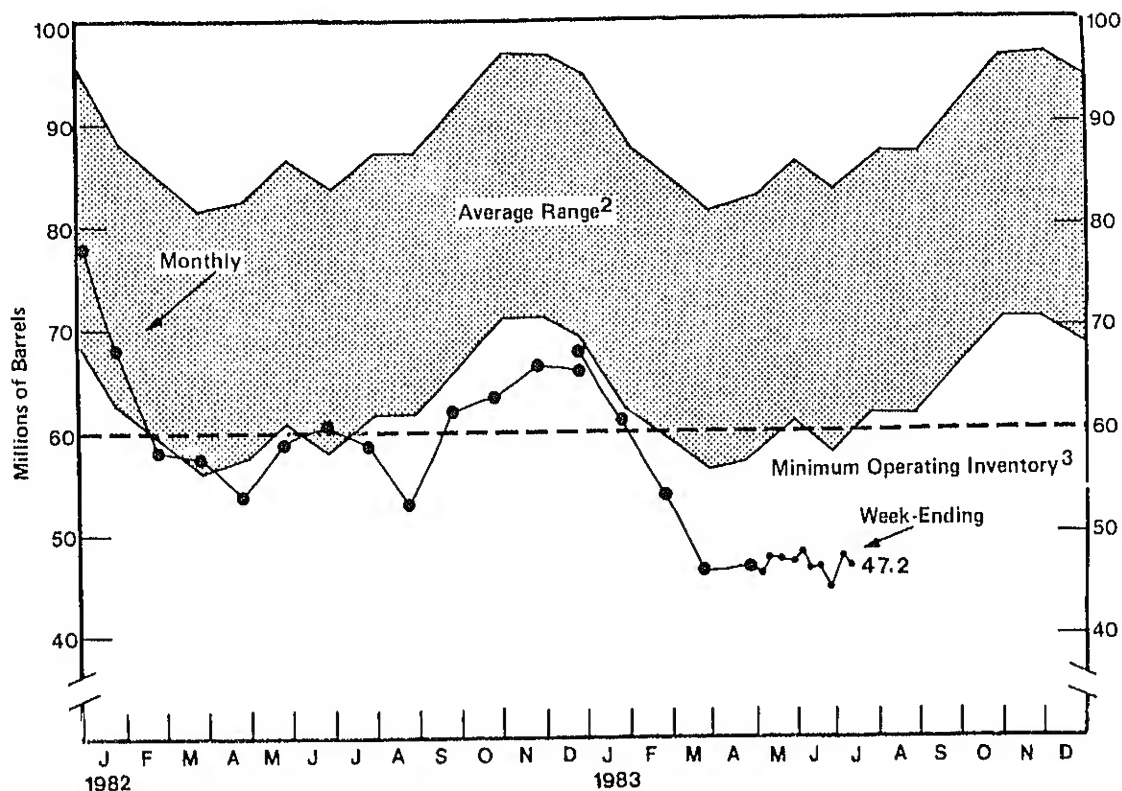
<sup>1</sup> See Appendix D for explanation of the 1983 new stock basis.

Note: PAD district data may not add to total due to independent rounding.

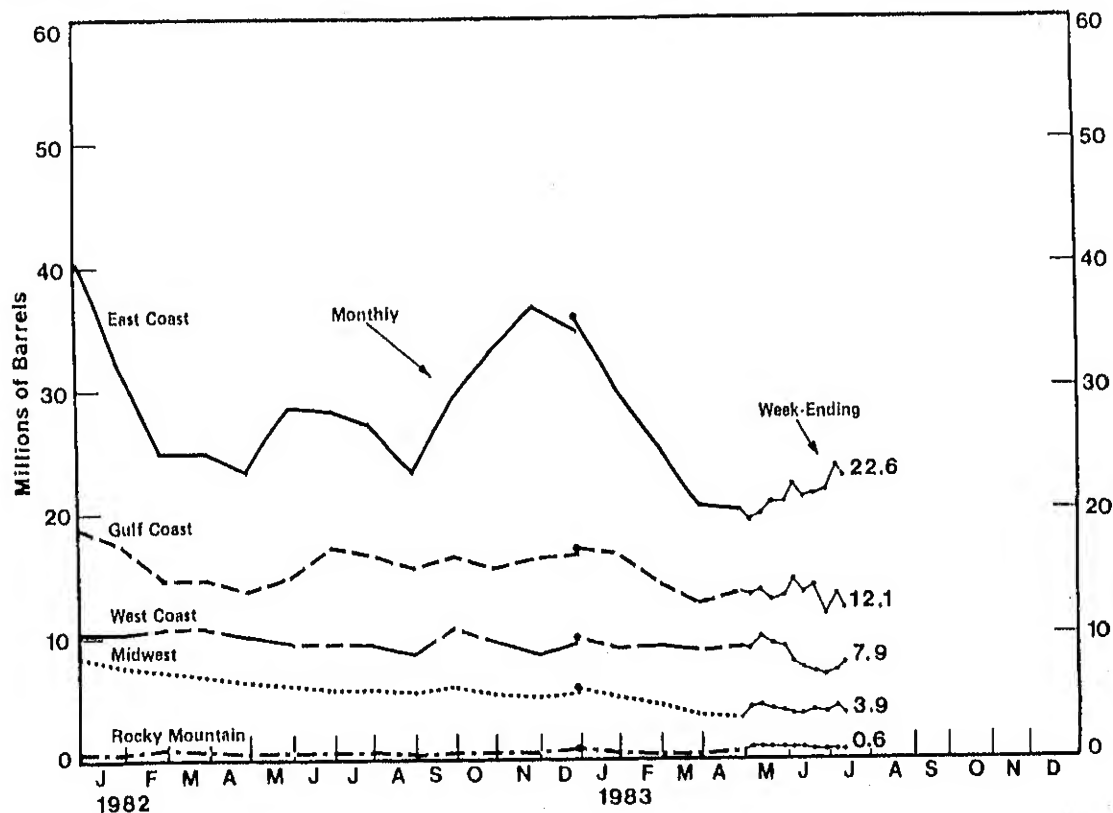
Source: • Monthly Data: 1981-1982, EIA, "Petroleum Supply Annual," 1983, EIA, "Petroleum Supply Monthly."

• Week-Ending Stocks: Estimates based on EIA weekly data.

Stocks of Residual Fuel Oil, U.S. Total<sup>1</sup>  
(Millions of Barrels)



Stocks of Residual Fuel Oil by Petroleum Administration for Defense District<sup>1</sup>  
(Millions of Barrels)



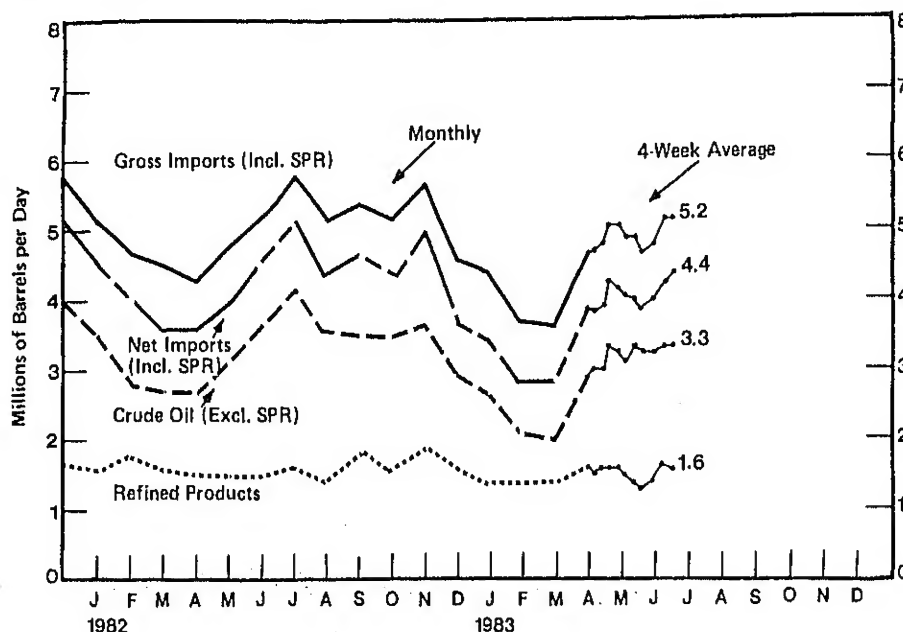
<sup>1</sup> See Appendix D for further explanation of the 1983 new stock basis.

<sup>2</sup> Average level and width of average range are based on three years of monthly data: January 1980–December 1982. The seasonal pattern is based on seven years of monthly data: January 1975–December 1981. See Appendix B for further explanation.

<sup>3</sup> The National Petroleum Council defines the Minimum Operating Inventory as the minimum level required for routine operation. In their 1979 study, they defined this inventory level for residual fuel oil to be 60 million barrels. See Appendix B for further explanation. The 1979 study is currently under review.

Source: • Ranges and Seasonal Patterns 1975–1980, EIA, "Petroleum Statement Annual (Final Summary)," 1981, EIA, "Petroleum Supply Annual,"  
• Monthly Data: 1981–1982, EIA, "Petroleum Supply Annual," 1983, EIA, "Petroleum Supply Monthly,"  
• Week-Ending Stocks: Estimates based on EIA weekly data.

Imports of Crude Oil and Petroleum Products  
(Millions of Barrels per Day)



Year/Product	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>1981</b>												
Crude Oil (Excl. SPR)	4.8	4.8	4.4	4.1	3.9	3.7	4.1	3.9	4.3	3.9	3.8	4.0
SPR	0.1	0.1	0.1	0.3	0.4	0.3	0.2	0.3	0.4	0.5	0.3	0.2
Refined Products	1.9	1.9	1.5	1.3	1.5	1.4	1.5	1.6	1.6	1.6	1.7	1.7
Gross Imports (Incl. SPR)	6.8	6.8	6.0	5.7	5.8	5.4	5.8	5.8	6.4	6.0	5.7	5.8
Total Exports <sup>1</sup>	0.6	0.6	0.6	0.6	0.6	0.4	0.6	0.6	0.5	0.7	0.7	0.7
Net Imports (Incl. SPR)	6.3	6.2	5.4	5.1	5.2	5.0	5.2	5.1	5.8	5.2	5.0	5.2
<b>1982</b>												
Crude Oil (Excl. SPR)	3.5	2.8	2.7	2.7	3.1	3.7	4.2	3.6	3.5	3.5	3.7	2.9
SPR	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.1
Refined Products	1.6	1.8	1.6	1.5	1.5	1.5	1.6	1.4	1.8	1.6	1.9	1.6
Gross Imports (Incl. SPR)	5.3	4.8	4.5	4.4	4.8	5.3	5.9	5.2	5.4	5.3	5.7	4.6
Total Exports <sup>1</sup>	0.8	0.8	0.9	0.8	0.8	0.7	0.7	0.9	0.8	0.9	0.8	0.9
Net Imports (Incl. SPR)	4.5	4.0	3.6	3.6	4.0	4.6	5.1	4.4	4.6	4.4	5.0	3.7
<b>1983</b>												
Crude Oil (Excl. SPR)	2.7	2.1	2.0	2.9								
SPR	0.2	0.2	0.2	0.2								
Refined Products	1.4	1.4	1.4	1.6								
Gross Imports (Incl. SPR)	4.4	3.7	3.6	4.7								
Total Exports <sup>1</sup>	1.0	0.9	0.8	0.8								
Net Imports (Incl. SPR)	3.4	2.8	2.8	3.9								
<b>Average for Four-Week Period Ending:</b>												
<b>1983</b>	<b>5/6</b>	<b>5/13</b>	<b>5/20</b>	<b>5/27</b>	<b>6/3</b>	<b>6/10</b>	<b>6/17</b>	<b>6/24</b>	<b>7/1</b>	<b>7/8</b>		
Crude Oil (Excl. SPR)	3.0	3.0	3.3	3.2	3.1	3.3	3.2	3.2	3.3	3.3		
SPR	0.2	0.2	0.3	0.3	0.3	0.2	0.1	0.2	0.2	0.3		
Refined Products	1.5	1.6	1.6	1.6	1.5	1.4	1.3	1.4	1.7	1.6		
Gross Imports (Incl. SPR)	4.7	4.8	5.1	5.1	4.9	4.9	4.7	4.8	5.2	5.2		
Total Exports <sup>1</sup>	E0.9	E0.9	E0.9	E0.8	E0.8	E0.8	E0.8	E0.8	E0.8	E0.8		
Net Imports (Incl. SPR)	3.8	3.9	4.3	4.2	4.1	4.0	3.9	4.0	4.3	4.4		

E=Estimate based on most recent monthly data available.

<sup>1</sup> Includes exports of crude oil and refined petroleum products. Exports of crude oil are prohibited under normal circumstances. Some crude oil is shipped to Canada in exchange on a barrel-for-barrel basis. Shipments of crude oil to Puerto Rico and the Virgin Islands are not prohibited because these territories are U.S. possessions.

Note: Detail data may not add to total due to independent rounding.

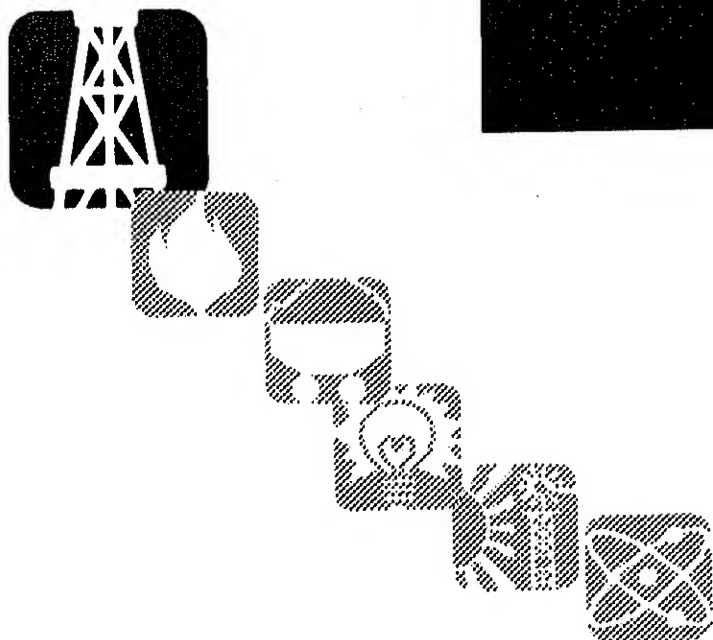
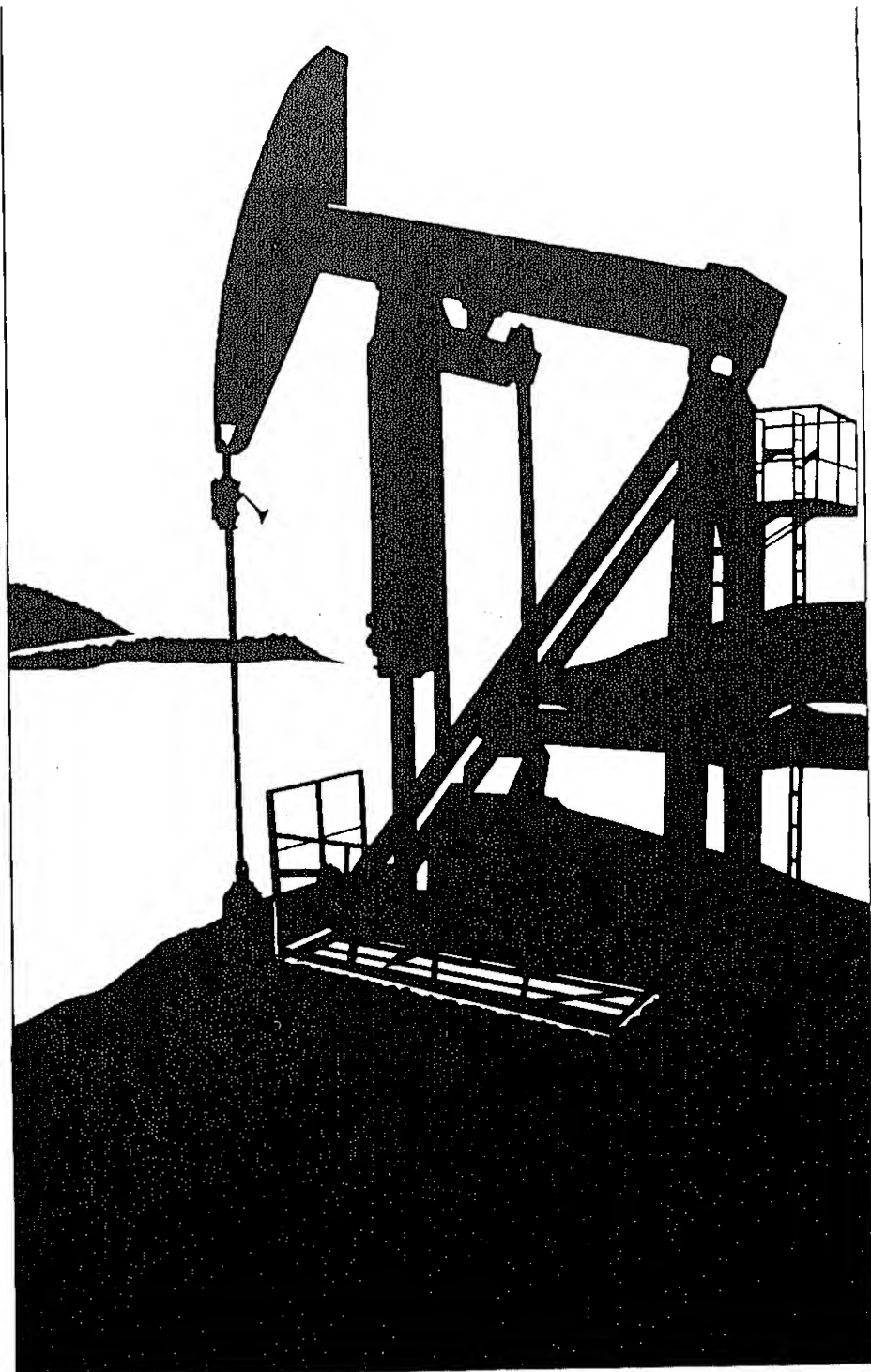
Source: • Monthly Data: 1981-1982, EIA, "Petroleum Supply Annual," 1983, EIA, "Petroleum Supply Monthly."

• Four-Week Averages: Estimates based on EIA weekly data.



# Explore the Future of Petroleum Supply Information

...with the Energy  
Information  
Administration



Wednesday, August 24, 1983  
8 A.M. - 3:30 P.M.  
**KEY BRIDGE MARRIOTT HOTEL**  
Arlington, Virginia

# Energy Information Administration Symposium on Petroleum Supply Information

Wednesday, August 24, 1983  
8 a.m. - 3:30 p.m.  
KEY BRIDGE MARRIOTT HOTEL  
Arlington, Virginia

## Keynote Address

### "Energy Issues Facing the U.S.: A Policy Perspective"

Danny J. Boggs, Special Assistant  
to the President for Energy,  
Natural Resources, Environment  
and Agriculture

## Opening Remarks

J. Erich Evered,  
Administrator  
Energy Information  
Administration

## "Petroleum Supply Division Activities: Present and Future"

Frank E. Lalley, Director  
Petroleum Supply Division  
Energy Information  
Administration



## Morning Sessions

### Session 1

10:20-11:50 a.m.

#### World Economic Changes and U.S. Oil Supply

Room A

Chairman: Jimmie L. Petersen, Director,  
Office of Oil and Gas, EIA

- "Trends in Refinery Capacity and Utilization (Results of 1983 EIA Refinery Survey)." Elizabeth Campbell, Economist, Petroleum Supply Division, EIA
- "World Oil Price and Inventory Cycles." Dr. John L. Moore, Deputy Area Manager, Applied Management Sciences
- "Minimum Operating Inventories for Gasoline, Distillate Fuel Oil and Residual Fuel Oil." Richard D. Farmer, Economist, Petroleum Supply Division, EIA

### Session 2

10:20-11:50 a.m.

#### Availability of EIA Petroleum Supply Information: Surveys, Systems and Publications

Room B

Chairman: Dr. Barry M. Yaffe, Chief,  
Data Analysis and Support Branch, EIA

- "EIA Petroleum Supply Surveys: An Overview." Ronald W. O'Neill, Publications Branch, Petroleum Supply Division, EIA
- "Systems Improvements: The Integrated Petroleum Supply Data Base." Robert Lesko, Vice President, Technology and Information Systems, Applied Management Sciences
- "New Data and Information Services." John Daniels, Director, National Energy Information Center, EIA

# Afternoon Sessions

## Session 3

1:30-3:30 p.m.

### Current Petroleum Supply Situation and Outlook

Room A

Chairman: Dr. Wray Smith, Director,  
Office of Energy Markets and End Use, EIA

- "The Current Petroleum Situation: Expectations for Fall and Winter 1983/84."  
Albert H. Linden, Jr.,  
Deputy Administrator, EIA
- "Outlook for World Crude Oil Prices."  
Calvin W. Kilgore, Acting Director,  
Short-Term Information, EIA
- "The Outlook for Transportation Fuels."  
Dr. David Green, Group Leader,  
Transportation Energy Group,  
Oak Ridge National Laboratory
- "Intermediate Term Petroleum Projections."  
Dr. John Pearson, Director,  
Longer-Term Information, EIA

## Session 4

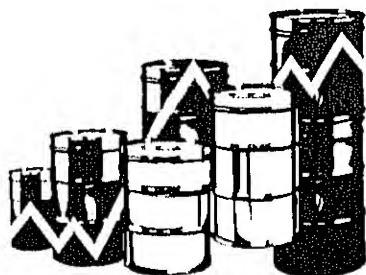
1:30-3:30 p.m.

### Petroleum Supply Data: Scope and Quality

Room B

Chairman: Dr. Yvonne M. Bishop, Director,  
Office of Statistical Standards, EIA

- "Accuracy of Petroleum Supply Data"  
Dr. Nancy Kirkendall, Statistician,  
Petroleum Supply Division, EIA
- "Advances in Quality Control in PSD Data"  
Dr. Lawrence A. Thibodeau,  
Deputy Area Manager,  
Applied Management Sciences
- "Liquefied Petroleum Gas Reporting"  
Gary Oleson, Statistician,  
Petroleum Supply Division, EIA
- "Statistical Design of the Weekly Petroleum Status Report."  
Dr. Eugene Burns and Yahia Ahmed, Statisticians,  
Petroleum Supply Division, EIA



**There is no charge for attendance. However, because of space limitations, reservations are required and requests will be honored on an "as received" basis.**

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on August 24, 1983.

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Organization \_\_\_\_\_

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afternoon session 3 ☐

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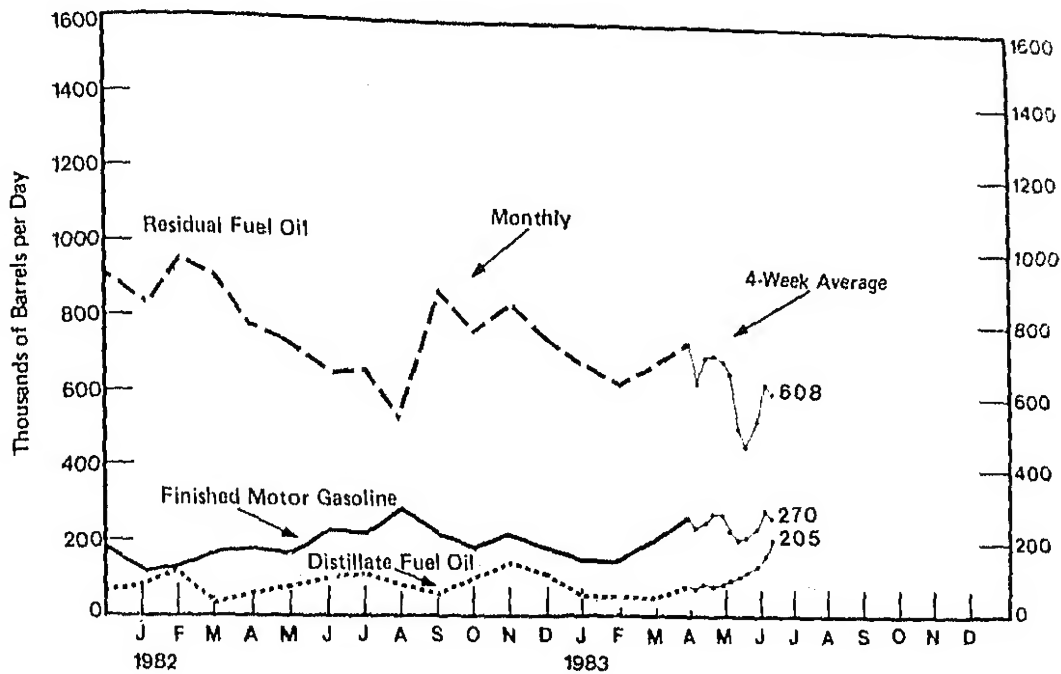
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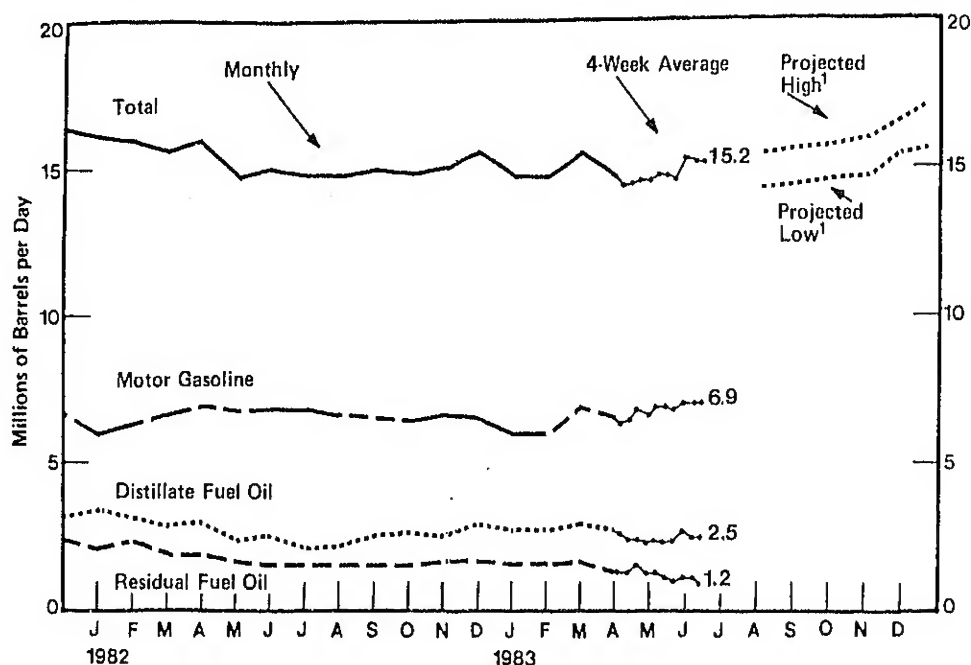
Imports of Petroleum Products by Product  
(Thousands of Barrels per Day)



Year/Product	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>1981</b>												
Finished Motor Gasoline	138	111	171	186	150	186	151	124	169	147	148	197
Jet Fuel	15	38	76	55	47	68	35	47	46	14	9	7
Distillate Fuel Oil	273	325	147	116	179	225	179	174	129	119	124	95
Residual Fuel Oil	1,015	954	699	584	741	540	830	819	841	786	880	916
Other <sup>1</sup>	453	471	414	389	371	356	327	424	438	514	533	491
<b>1982</b>												
Finished Motor Gasoline	128	133	183	185	182	230	225	291	223	185	211	178
Jet Fuel	10	62	39	47	31	3	31	26	30	20	40	7
Distillate Fuel Oil	97	132	48	59	74	102	125	80	61	91	145	109
Residual Fuel Oil	831	956	912	788	742	652	657	550	872	783	836	747
Other <sup>1</sup>	573	533	427	449	474	504	604	445	592	557	650	564
<b>1983</b>												
Finished Motor Gasoline	148	142	205	273								
Jet Fuel	27	8	35	15								
Distillate Fuel Oil	58	58	42	73								
Residual Fuel Oil	691	632	686	743								
Other <sup>1</sup>	510	583	429	486								
<b>Average for Four-Week Period Ending:</b>												
1983	5/6	5/13	5/20	5/27	6/3	6/10	6/17	6/24	7/1	7/8		
Finished Motor Gasoline	246	257	277	276	239	216	217	246	289	270		
Jet Fuel	12	12	8	10	8	8	15	16	31	32		
Distillate Fuel Oil	68	78	73	85	97	106	115	141	167	205		
Residual Fuel Oil	636	702	712	696	662	519	460	539	636	608		
Other <sup>1</sup>	512	524	534	520	511	518	516	486	562	528		

<sup>1</sup> Includes imports of kerosene, unfinished oils, motor gasoline blending components, liquefied petroleum gases and other oils.  
Source: • Monthly data: 1981-1982, EIA, "Petroleum Supply Annual," 1983, EIA, "Petroleum Supply Monthly."  
• Four-Week Averages: Estimates based on EIA weekly data.

Petroleum Products Supplied  
(Millions of Barrels per Day)



Year/Product	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>1981</b>												
Motor Gasoline	6.4	6.3	6.3	6.6	6.6	7.0	6.8	6.6	6.7	6.6	6.4	6.7
Jet Fuel	1.1	1.0	1.1	1.0	0.9	1.0	1.1	1.0	1.0	0.9	1.0	1.0
Distillate Fuel Oil <sup>2</sup>	4.1	3.4	2.9	2.5	2.4	2.4	2.4	2.4	2.5	2.8	2.9	3.2
Residual Fuel Oil <sup>2</sup>	2.9	2.5	2.1	1.9	1.8	2.0	2.0	1.8	1.9	1.9	1.9	2.3
Other	3.9	3.8	3.5	3.4	3.7	3.7	3.4	3.5	3.8	3.6	3.4	3.4
Total	18.4	17.0	15.9	15.4	15.4	16.1	15.7	15.3	15.9	15.8	15.6	16.6
<b>1982</b>												
Motor Gasoline	6.0	6.2	6.5	6.9	6.7	6.8	6.8	6.6	6.5	6.4	6.6	6.5
Jet Fuel	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1
Distillate Fuel Oil <sup>2</sup>	3.5	3.1	2.9	3.0	2.4	2.5	2.1	2.2	2.5	2.6	2.5	2.9
Residual Fuel Oil <sup>2</sup>	2.2	2.3	1.9	1.9	1.6	1.5	1.6	1.5	1.5	1.5	1.6	1.6
Other	3.5	3.3	3.3	3.2	3.2	3.2	3.4	3.5	3.5	3.4	3.3	3.4
Total	16.1	16.0	15.6	16.0	14.8	15.0	14.8	14.8	15.0	14.9	15.0	15.5
<b>1983</b>												
Motor Gasoline	6.0	6.0	6.8	6.5								
Jet Fuel	0.9	1.0	1.0	1.1								
Distillate Fuel Oil <sup>2</sup>	2.8	2.8	2.9	2.7								
Residual Fuel Oil <sup>2</sup>	1.6	1.6	1.6	1.4								
Other	3.5	3.3	3.2	3.1								
Total	14.8	14.8	15.5	14.8								
<b>Average for Four-Week Period Ending:</b>												
<b>1983</b>	5/6	5/13	5/20	5/27	6/3	6/10	6/17	6/24	7/1	7/8		
Motor Gasoline	6.4	6.5	6.7	6.6	6.8	6.8	6.7	6.9	6.9	6.9		
Jet Fuel	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		
Distillate Fuel Oil <sup>2</sup>	2.6	2.4	2.4	2.3	2.4	2.3	2.4	2.6	2.5	2.5		
Residual Fuel Oil <sup>2</sup>	1.4	1.4	1.5	1.4	1.4	1.3	1.2	1.3	1.3	1.2		
Other	3.1	3.1	3.1	3.4	3.3	3.3	3.3	3.4	3.5	3.6		
Total	14.4	14.5	14.6	14.6	14.8	14.8	14.7	15.3	15.2	15.2		

<sup>1</sup> Projected. See Appendix C for explanation of derivation of values.

<sup>2</sup> Beginning in 1983, crude oil burned as residual fuel oil or distillate fuel oil is no longer reported to EIA and therefore is not included in 1983 product supplied calculations for these fuels. The product supplied series for distillate and residual fuel oil for 1981 and 1982 shown on this page are the values published in 1981 and 1982 EIA publications and include crude oil transfers (about 48 thousand barrels per day for residual fuel oil and 10 thousand barrels per day for distillate fuel oil). See Appendix D for further explanation.

Note: Detail data may not add to total due to independent rounding.

Source: • Monthly Data: 1981-1982, EIA, "Petroleum Supply Annual," 1983, EIA, "Petroleum Supply Monthly."

• Four-Week Averages: Estimates based on EIA weekly data.

• Projections: EIA, Office of Energy Markets and End Use (February 1983).

**Average Retail Selling Prices**  
**Motor Gasoline and Residential Heating Oil**  
**(Cents per Gallon, Including Taxes)<sup>1</sup>**

Year/Product	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>1981</b>												
Motor Gasoline												
Leaded Premium	133.8	141.0	144.9	145.1	144.7	144.6	144.6	144.4	145.6	145.7	146.2	146.0
Leaded Regular	123.8	132.1	135.2	134.4	133.3	132.4	131.5	131.0	130.5	129.9	129.7	129.3
Unleaded Regular	129.8	138.2	141.7	141.2	140.0	139.1	138.2	137.6	137.6	137.1	136.9	136.5
All-types	126.9	135.3	138.8	138.1	137.0	136.2	135.3	134.8	135.8	135.3	135.1	134.8
Residential Heating Oil	114.4	123.4	125.5	123.9	122.7	120.9	121.0	119.4	119.7	118.8	120.8	122.0
<b>1982</b>												
Motor Gasoline												
Leaded Premium	145.6	143.8	140.7	136.8	137.9	140.8	145.0	145.8	144.1	141.3	141.2	137.2
Leaded Regular	128.5	126.0	120.6	114.8	116.6	124.2	126.3	125.4	123.6	121.9	120.7	118.1
Unleaded Regular	135.8	133.4	128.4	122.5	123.7	130.9	133.1	132.3	130.8	129.5	128.3	126.0
All-types	134.1	131.8	126.8	121.0	122.4	129.6	131.8	131.0	129.5	128.0	126.8	124.4
Residential Heating Oil	122.0	120.7	115.3	113.2	114.3	116.2	115.8	115.9	115.2	119.6	121.6	119.6
<b>1983</b>												
Motor Gasoline												
Leaded Premium	135.3	131.8	127.4	132.1	137.6							
Leaded Regular	114.6	109.9	106.4	113.1	117.7							
Unleaded Regular	122.8	118.7	115.1	121.5	125.9							
All-Types	121.3	117.0	113.5	119.8	124.3							
Residential Heating Oil <sup>1</sup>	114.7	111.4	104.9	P103.5								

P=Preliminary.

<sup>1</sup> Beginning in January 1983, residential heating oil prices do not include taxes.

Note: Motor gasoline data include prices from self-service stations. Beginning with September 1981, the Bureau of Labor Statistics has changed the weights used in the calculation of average motor gasoline prices. In the "all types" category gasoline is now included, and unleaded premium is weighted more heavily.

Source: • Motor Gasoline: Bureau of Labor Statistics. See glossary for descriptions of survey.

• Residential Heating Oil: 1981-1982: Form EIA-9A, "No. 2 Distillate Price Monitoring Report."

1983: Forms EIA-782A, "Monthly Petroleum Product Sales Report," and EIA-782B, "Monthly No. 2 Distillate Sales Report."

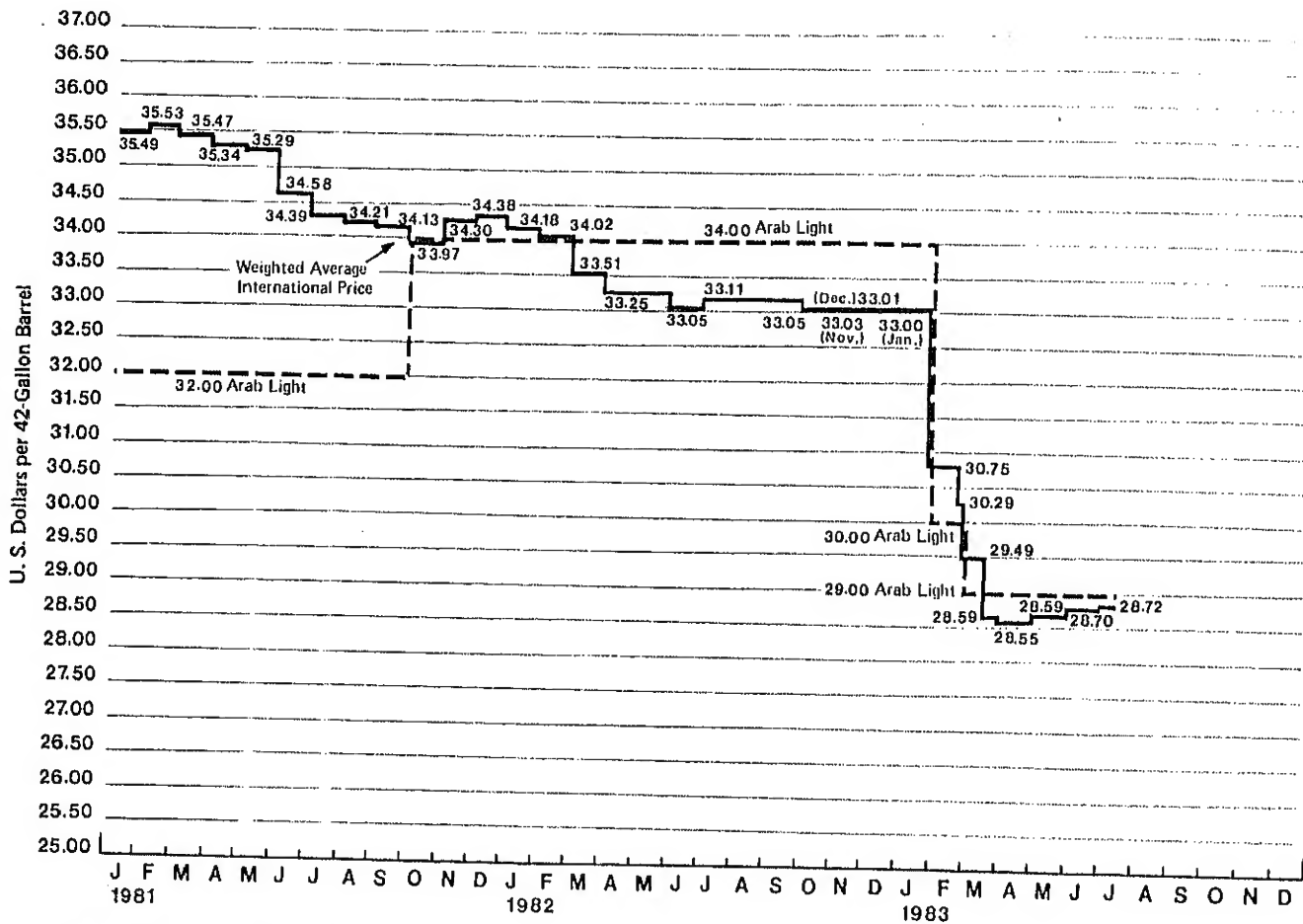
**Refiner Acquisition Cost of Crude Oil**  
**(Dollars per Barrel)**

Year/Type	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
<b>1981</b>												
Domestic	32.71	36.27	36.97	35.58	35.21	34.20	33.76	33.79	33.47	33.48	33.49	33.51
Imported	38.85	39.00	38.31	38.41	37.84	37.03	36.58	35.82	35.44	35.43	36.21	35.95
Composite	34.86	37.28	37.48	36.58	36.11	35.03	34.70	34.46	34.11	34.07	34.33	34.33
<b>1982</b>												
Domestic	33.39	32.71	31.08	30.27	30.37	30.79	30.92	30.85	30.76	31.38	31.57	30.80
Imported	35.54	35.48	34.07	32.82	32.78	33.79	33.44	32.95	33.03	33.28	33.09	32.85
Composite	33.95	33.40	31.81	30.83	31.02	31.74	31.74	31.45	31.40	31.98	32.07	31.29
<b>1983</b>												
Domestic	30.55	29.16	28.69	R28.45								
Imported	31.40	30.76	28.43	27.95								
Composite	30.73	29.49	28.64	R28.33								

R=EIA Revision.

Source: • Form EIA-14, "Refiners Monthly Cost Report."

# World Crude Oil Prices<sup>1</sup> (Dollars per Barrel)



<sup>1</sup> Internationally traded oil only. Average price (FOB) weighted by estimated export volume.  
 Note: Beginning with the May 1, 1981 issue of the Weekly Petroleum Status Report, the world crude oil price is based on a revised crude list.  
 Additions: Saudi Arabia's Arabian Heavy, Dubai's Feteh, Egypt's Suez Blend, and Mexico's Maya. Omissions: Canadian Heavy. Replacements: Iraq's Kirkuk Blend for Iraq's Basrah Light.  
 The above graph shows an estimated world crude oil price based on this revised list beginning January 1, 1981.



**World Crude Oil Prices<sup>1</sup>**  
(Dollars per Barrel)

Country	Type of Crude/ API Gravity	Current Price	In Effect 1 Jan 82	In Effect 1 Jan 81	In Effect 1 Jan 80	In Effect 31 Dec 78	Percent Change Current Price From	
							In Effect 1 Jan 80	In Effect 31 Dec 78
OPEC								
Saudi Arabia	Arabian Light 34° (Bench mark crude)	29.00	34.00	32.00	26.00	12.70	11.5	128.3
	Saudi Berri 39°	29.62	35.40	33.52	27.52	13.23	7.3	123.1
	Arabian Heavy 27°	26.00	31.00	31.00	25.00	12.02	4.0	123.1
Abu Dhabi	Murban 39°	29.56	35.50	36.56	29.56	13.26	0	122.9
Dubai	Fateh 32°	28.86	33.86	35.93	27.93	12.64	3.3	128.3
Qatar	Dukhan 40°	29.49	35.45	37.42	29.42	13.19	0.2	123.6
Iran	Iranian Light 34°	28.00	34.20	37.00	30.00	13.45	-6.7	108.2
Iraq	Kirkuk 36°	29.83	34.93	37.50	29.29	13.17	1.8	126.5
Kuwait	Kuwait Blend 31°	27.30	32.30	35.50	27.50	12.22	-0.7	123.4
Neutral Zone	Khafji 28°	26.03	31.03	25.20	27.20	12.03	-4.3	116.4
Algeria	Saharan 44°	30.50	37.00	40.00	33.00	14.10	-7.6	116.3
Nigeria	Bonny Light 37°	30.00	36.50	40.00	29.97	15.12	0.1	98.4
Libya	Es Sider 37°	30.15	36.50	40.78	34.50	13.68	-12.6	120.4
Indonesia	Minas 34°	29.53	35.00	35.00	27.50	13.55	7.4	117.9
Venezuela	Tia Juana 26°	27.88	32.88	32.88	25.20	12.72	10.6	119.2
Gabon	Mandji 30°	29.00	34.00	35.00	28.00	12.59	3.6	130.3
Ecuador	Oriente 30°	27.60	34.25	40.06	33.50	12.35	-17.9	122.7
Total OPEC <sup>3</sup>	NA	28.87	34.13	34.82	28.30	13.03	2.0	121.6
Non-OPEC								
United Kingdom	Forties 36°	29.75	38.50	39.25	29.75	14.00	0	112.5
Norway	Ekofisk 42°	30.25	37.25	40.00	32.50	14.20	-6.9	113.0
Mexico	Mexican Light 33°	29.00	35.00	38.50	32.00	13.10	-9.4	121.4
"	Mexican Heavy 22°	23.00	28.50	34.50	28.00	NA	-17.9	NA
Egypt	Suez Blend 33°	28.25	34.00	40.50	34.00	12.81	-16.9	120.5
Oman	Oman 34°	29.00	35.00	37.50	30.25	13.06	-4.2	122.1
Syria	Suwadiyah 26°	25.00	30.00	38.03	31.39	11.64	-20.4	114.8
Malaysia	Miri 38°	29.85	36.50	41.30	33.60	14.30	11.2	108.7
Brunei	Serla 36°	30.10	36.10	40.35	33.40	14.15	-9.9	112.7
U.S.S.R. <sup>5</sup>	Export Blend 33°	29.00	35.40	39.25	33.20	13.20	-12.6	119.7
Total Non-OPEC <sup>3</sup>	NA	28.46	34.35	38.54	31.94	13.44	-10.9	111.8
Total World <sup>3</sup>	NA	28.72	34.18	35.49	28.84	13.08	-0.4	119.6
United States <sup>6</sup>	NA	27.55	34.15	36.69	29.35	13.38	-6.1	105.9

NA=Not Applicable.

<sup>1</sup> Official sales prices or estimated term contract prices; spot prices excluded.

<sup>2</sup> 37c higher at 60 days' credit.

<sup>3</sup> Average prices (FOB) weighted by estimated export volume.

<sup>4</sup> On 60 days' credit.

<sup>5</sup> Average delivered cost to Northwest Europe.

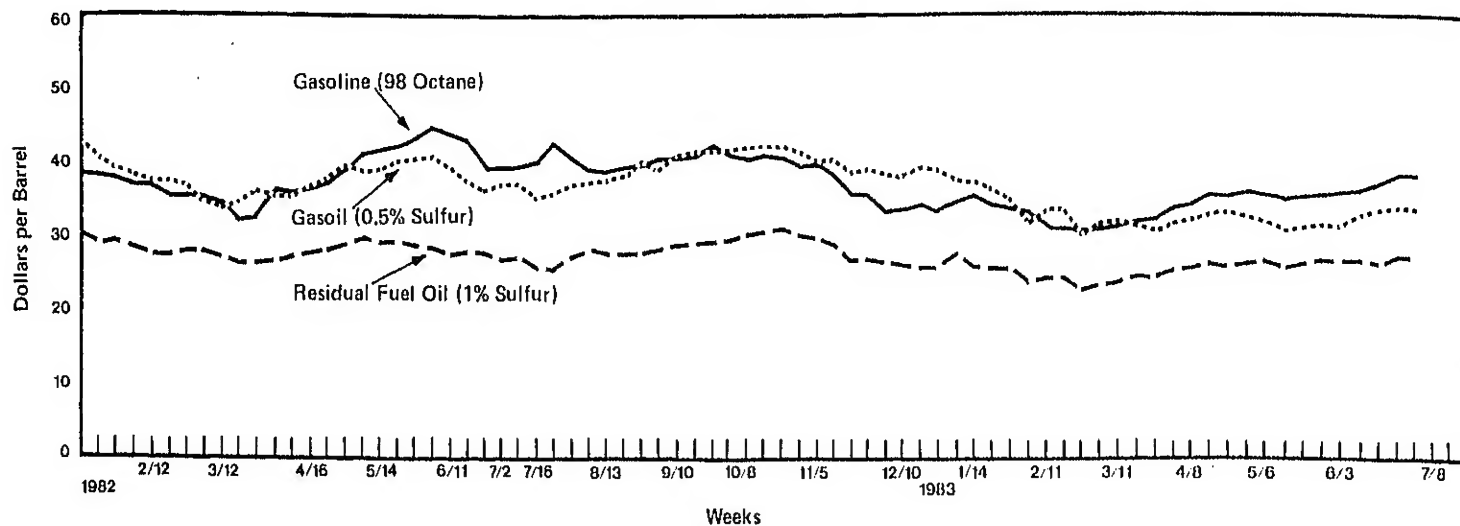
<sup>6</sup> Average prices (FOB) weighted by estimated import volume.

Source: DOE, Office of International Affairs, July 12, 1983.

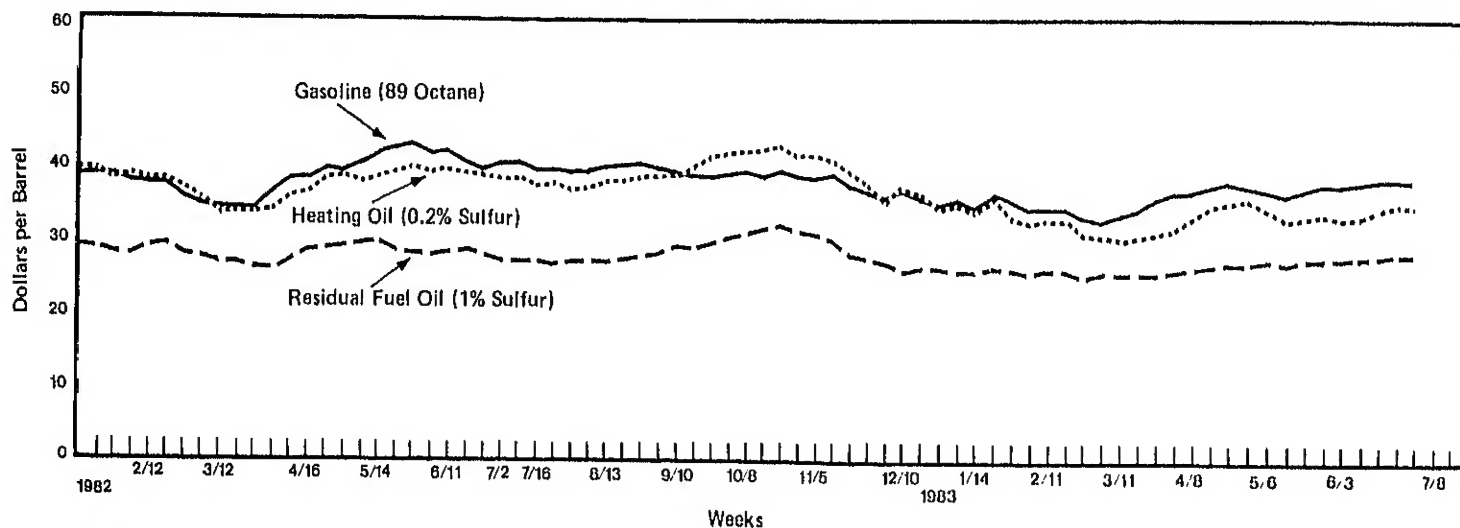
- Platt's Oilgram Price Report.
- Petroleum Intelligence Weekly.
- Oil Buyers' Guide.
- Europe Oil Prices.

Spot Market Product Prices  
(Dollars per Barrel)

Rotterdam Market



New York Market



Source: • Oil Buyers' Guide, Weekly Oil Market Product Report.  
• DOE, Office of International Affairs.

Spot Market Product Prices  
(Dollars per Barrel)

		Motor Gasoline		Gasoil/Heating Oil <sup>1</sup>		Residual Fuel Oil <sup>2</sup>	
		Rotterdam (98 Octane)	N.Y. <sup>3</sup> (89 Octane)	Rotterdam (0.5% Sulfur)	N.Y. <sup>4</sup> (0.2% Sulfur)	Rotterdam (1% Sulfur)	N.Y. <sup>3</sup> (1% Sulfur)
1982	Jul 2	39.86	40.07	37.27	38.01	27.10	27.00
	9	39.86	40.07	37.27	38.01	27.10	27.00
	16	40.04	39.73	35.32	37.59	25.90	27.00
	23	39.57	39.84	36.13	37.38	25.53	26.80
	30	40.12	39.59	36.98	36.96	27.78	27.00
	Aug 6	38.80	39.59	37.33	37.06	28.00	27.00
	13	38.45	40.00	37.60	37.80	27.85	27.00
	20	39.15	40.00	38.70	37.80	27.85	27.25
	27	39.86	40.05	40.28	38.32	27.85	27.75
	Sep 3	40.56	39.84	38.46	39.48	28.38	28.00
	10	40.39	39.69	41.02	39.58	28.68	29.25
	17	41.03	39.38	41.22	39.90	28.75	28.75
	24	42.61	38.38	41.22	41.26	28.90	29.60
	Oct 1	41.03	38.54	41.96	41.58	29.88	30.25
	8	40.15	38.96	42.29	42.00	30.33	30.35
	15	41.03	38.74	42.96	42.42	30.48	31.00
	22	40.04	39.69	42.76	42.74	30.78	31.35
	29	39.39	38.96	41.42	41.37	30.26	30.75
	Nov 5	39.80	38.45	39.88	41.37	29.95	30.50
	12	38.22	38.56	40.28	40.32	28.75	30.00
	19	36.11	37.02	38.81	38.85	26.88	28.00
	26	36.28	36.33	38.87	37.06	26.88	27.50
	Dec 3	33.65	35.76	38.67	35.07	26.95	26.75
	10	33.88	36.50	38.20	36.96	26.80	25.75
	17	34.00	35.13	39.75	36.12	26.73	26.35
	24	33.70	34.92	39.28	34.86	26.73	26.35
1983	Jan 7	34.88	35.13	37.73	34.86	27.55	25.75
	14	35.46	34.82	37.47	34.44	26.73	25.75
	21	34.29	36.29	37.00	35.60	26.58	26.00
	28	33.88	35.03	34.45	33.08	25.98	25.50
	Feb 4	33.70	34.57	32.37	32.55	23.87	25.00
	11	31.48	34.82	33.98	32.76	24.47	26.00
	18	31.48	34.82	33.98	32.76	24.47	26.00
	25	30.72	33.24	30.63	31.08	22.97	25.00
	Mar 4	31.01	32.99	31.70	30.56	23.50	25.25
	11	31.65	33.41	31.70	30.45	24.17	25.25
	18	32.30	34.57	31.64	30.56	24.92	25.25
	25	32.53	35.57	30.90	30.76	24.70	25.25
	Apr 1	33.82	36.77	31.70	31.71	25.23	25.75
	8	34.70	36.77	32.51	32.66	25.30	26.00
	15	36.69	37.09	33.58	34.65	25.90	26.50
	22	35.58	37.40	33.78	35.28	25.60	26.75
	29	36.75	37.19	33.51	35.49	25.98	26.75
	May 6	36.28	36.88	32.51	34.54	25.98	27.00
	13	34.94	36.67	31.57	33.18	25.30	26.50
	20	35.35	36.98	31.97	33.28	25.75	27.00
	27	35.58	37.19	32.24	33.50	26.13	27.25
	Jun 3	35.76	37.19	32.10	33.28	25.98	27.50
	10	35.81	37.32	33.24	33.39	25.98	27.60
	17	36.87	37.84	33.38	34.12	25.83	28.05
	24	37.87	37.84	33.51	34.23	26.80	28.50
	Jul 1	37.16	37.42	32.84	34.02	26.28	28.35
	8	Not available. See Page 1 for explanation.					

<sup>1</sup> Refers to No. 2 Heating Oil.

<sup>2</sup> Refers to No. 6 Oil.

<sup>3</sup> East Coast Cargoes.

<sup>4</sup> New York Harbor Reseller Barge Prices.

Source: • Oil Buyers' Guide, Weekly Oil Market Product Report.

• DOE, Office of International Affairs.



## Appendix A. EIA WEEKLY DATA: SURVEY DESIGN AND ESTIMATION METHODS

The Weekly Petroleum Reporting System (WPRS) comprises five surveys: the "Weekly Refinery Report" (EIA-800); the "Weekly Bulk Terminal Report" (EIA-801); the "Weekly Product Pipeline Report" (EIA-802); the "Weekly Crude Oil Stocks Report" (EIA-803); and the "Weekly Imports Report" (EIA-804). The EIA weekly reporting system, as part of the Petroleum Supply Reporting System, was designed to collect data similar to those collected monthly. In the WPRS, selected petroleum companies report weekly data to EIA on crude oil and petroleum product stocks, refinery inputs and production, and crude oil and petroleum product imports. On the Forms EIA-800 through EIA-803, companies report data on a custody basis. On the Form EIA-804, the importer of record reports each shipment entering the United States. Current weekly data and the most recent monthly data are used to estimate the published weekly totals.

### Sample Frame

The sample of companies that report weekly in the WPRS was selected from the universe of companies that report monthly. All sampled companies report data only for facilities in the 50 States and District of Columbia. The EIA-800 sample frame includes all petroleum refineries in the United States and its territories, industrial facilities that have crude oil distillation capacity and produce some refined petroleum products, and bulk terminals that blend motor gasoline. The EIA-801 sample frame includes all bulk terminal facilities in the United States and its territories that have total bulk storage capacity of 50,000 barrels or more, or that receive petroleum products by tanker, barge, or pipeline. The EIA-802 sample frame includes all petroleum product pipeline companies in the United States and its territories that transport refined petroleum products, including interstate, intrastate and intracompany pipeline movements. Pipeline companies that only transport natural gas liquids are not included in the EIA-802 frame. Only those pipeline companies which transport products covered in the weekly survey are included. The EIA-803 sample frame consists of all companies which carry or store crude oil of 1,000 barrels or more. Included are gathering and trunk pipeline companies (including interstate, intrastate, and intracompany pipelines), crude oil producers, terminal operators, storers of crude oil, and companies transporting Alaskan crude oil by water. The EIA-804 sample frame includes all importers of record of crude oil and petroleum products into the United States.

### Sampling

The sampling procedure used for the weekly system is the cut-off method. In the cut-off method, companies are ranked from largest to smallest on the basis of the quantities reported during some previous period. Companies are chosen for the sample beginning with the largest and adding companies until the total sample covers about 90 percent of the total for the previous time period.

	Refiners (Refineries)	Bulk Terminals	Pipelines	Crude Oil Stock Holders	Importers
Weekly Form	EIA-800	EIA-801	EIA-802	EIA-803	EIA-804
Monthly Frame Size	172(300)	276	78	168	1086
Weekly Sample Size	60(165)	88	46	82	62

### Collection Methods

Data are collected by mail, mailgram, telephone, Telex, and Telefax on a weekly basis. All canvassed firms and terminal operating companies must file by 6:00 p.m. on the Monday following the close of the report period, 7 a.m. Friday. During the processing week, company corrections of the prior week's data are also entered.

### Estimation and Imputation

After the company reports have been checked and entered into the weekly data base, ratio estimates of the weekly totals are calculated from the reported data. First, the current week's data for a given product reported by companies in that region are summed. (Call this weekly sum,  $W_t$ ). Next, the most recent month's data for the product reported by those same companies are summed. (Call this monthly sum,  $M_s$ ). Finally, let  $M_t$  be the sum of the most recent month's data for the product as reported by all companies. Then, the current week's ratio estimate for that product for all companies,  $W_t$ , is given by:

$$W_t = \frac{M_t}{M_s} \cdot W_s$$

This procedure is used directly to estimate total weekly inputs to refineries and production. To estimate stocks of finished products, the preceding procedure is followed separately for refineries, bulk terminals, and pipelines. Total estimates are formed by summing over establishment types.

Weekly imports data are highly variable on a company-by-company basis or a week-by-week basis. Therefore, an exponentially smoothed ratio has been developed. The estimate of weekly imports is the sum of the smoothed ratio multiplied by the weekly values and estimates for shipments from Puerto Rico. Imports of other oils includes an adjustment from Census data for unlicensed products because of coverage differences between the monthly imports data and Census data.

Explicit imputation is done for companies which do not respond in a given week. The imputed values are exponentially smoothed means of recent reports from the specific company.

### Response Rates

The response rate as of the day after the filing deadline is about 80 percent for the EIA-800; 75 percent for the EIA-801; 95 percent for the EIA-802; 80 percent for the EIA-803; and greater than 95 percent for the EIA-804. However, more forms are received the next day, bringing the final response rates up. Late respondents are contacted by telephone. Nearly all of the major companies report on time. The nonresponse rate for the published estimates is usually between 2 percent and 5 percent.

## Appendix B. INTERPRETATION AND DERIVATION OF AVERAGE INVENTORY LEVELS

The national inventory (stocks) graphs for total petroleum products, crude oil, motor gasoline, distillate fuel oil, and residual fuel oil in this publication include features to assist in comparing current inventory levels with past inventory levels and with judgments of critical levels. Methods used in developing the average inventory levels and minimum operating levels are described below.

### Average Inventory Levels

The charts displaying inventory levels of total petroleum products (p. 7), crude oil (p. 7), motor gasoline (p. 9) distillate fuel oil (p. 11), and residual fuel oil (p. 13) provide the reader with actual inventory data compared to an "average range" from the most recent 3-year period running from January through December or from July through June. The ranges are updated every six months in March and October. The 3-year period is adjusted by dropping the oldest 6 months and including the most recent 6 months. The ranges also reflect seasonal variation determined from a longer time period. The seasonal factors, which determine the shape of the upper and lower curves, are updated annually in October, using the most recent year's final monthly data.

The monthly seasonal factors are estimated by means of a seasonal adjustment technique developed at the Bureau of Census (Census X-11). The seasonal factors are assumed to be stable (i.e., unchanging from year to year) and additive (i.e., the series is deseasonalized by subtracting the seasonal factor for the appropriate month from the reported inventory levels). The intent of deseasonalization is to remove only annual variation from the data. Thus, deseasonalized series would contain the same trends, cyclical components, and irregularities as the original data. The seasonal factors for total petroleum (crude and products), crude oil, distillate fuel oil, and residual fuel oil were derived using monthly data from 1975-1981. For motor gasoline, the seasonal factors were based on monthly data from 1975-1976 and 1978-1981. In 1977, monthly stock levels of motor gasoline stayed at the same high level for the entire year. Since there was virtually no seasonal behavior in motor gasoline stocks that year, 1977 was not used in the determination of seasonal patterns for motor gasoline stocks.

After seasonal factors are derived, data from the most recent 3-year period (January-December or July-June) are deseasonalized. The average of the deseasonalized 36-month series determines the midpoint of the deseasonalized average band. The standard deviation of the deseasonalized 36-months is calculated adjusting for extreme data points. The upper curve of the "average range" is defined as the average plus the seasonal factors plus the standard deviation. The lower curve is defined as the average plus the seasonal factors minus the standard deviation. Thus, the width of the "average range" is twice the standard deviation. The values of the upper and lower curves are presented in the table below.

Values of Average Ranges in Inventory Graphs  
(Millions of Barrels)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Lower Range												
Total Petroleum	1152.1	1109.8	1105.1	1115.9	1130.6	1142.6	1170.9	1186.2	1210.9	1217.2	1219.6	1176.1
Crude Oil	352.0	350.5	359.0	363.1	360.4	359.3	354.2	349.4	349.8	357.7	356.4	346.8
Motor Gasoline	254.2	260.6	256.5	245.5	236.3	231.4	229.5	228.0	229.5	221.6	227.1	237.5
Distillate Fuel Oil	147.5	117.9	106.2	107.5	116.3	131.0	153.5	173.6	192.0	198.5	199.0	177.1
Residual Fuel Oil	62.8	59.7	56.7	57.9	61.2	58.6	62.1	62.1	66.9	71.0	71.3	69.5
Upper Range												
Total Petroleum	1308.7	1266.4	1261.7	1272.5	1287.2	1299.2	1327.5	1342.8	1367.5	1373.8	1376.2	1332.7
Crude Oil	378.4	376.9	385.4	389.6	386.9	385.8	380.6	375.8	376.2	384.1	382.8	373.2
Motor Gasoline	279.6	285.9	281.8	270.9	261.7	256.7	254.9	253.4	254.9	246.9	252.4	262.9
Distillate Fuel Oil	203.9	174.3	162.6	163.8	172.6	187.4	209.9	230.0	248.3	254.8	255.3	233.4
Residual Fuel Oil	87.3	84.2	81.1	82.3	85.6	83.0	86.5	86.5	91.4	95.4	95.8	93.9

### Minimum Operating Levels

The lines labeled "minimum operating inventory" for crude oil, motor gasoline, distillate fuel oil, and residual fuel oil were derived by the National Petroleum Council from a 1978 survey of petroleum refineries, bulk terminal operators, and petroleum pipelines. The Council also surveyed industry experts. The findings were published in "Petroleum Storage and Transportation Capacities" in December 1979. In that document, minimum operating inventory is described as follows:

## Appendix C. PROJECTION OF PRODUCT SUPPLIED FROM THE MAY 1983 SHORT-TERM ENERGY OUTLOOK

The projections of "high" and "low" total petroleum demand, shown in the WPSR as total product supplied, are from the Office of Energy Markets and End Use, Short-Term Energy Outlook (Outlook), May 1983.

The three forecast cases presented in the Outlook are based on differing assumptions about the world price of crude oil. In the low price case, it is assumed that world oil prices collapse to an effective OPEC marker price of \$25 per barrel that results in an average cost of imported crude to U. S. refiners of \$25.43 per barrel from the fourth quarter of 1983 through the forecast period. In the base case, it is assumed the marker crude price decreases to a level in line with the recent OPEC agreement, which results in an average cost for imported crude to U. S. refiners of \$29.43 per barrel. In the high price case, it is assumed that imported crude oil prices rise at twice the U. S. rate of inflation.

The "high demand" case is formed by adding the low price forecast of total demand to the square root of the sum of the squares of the increases in demand that result from the following changes in key variables: (1) a 10-percent increase in heating degree-days over the base case, (2) a 14-percent increase in cooling degree-days over the base case, (3) an increase in income over the base case that reflects the average forecast errors for income over a 3-year period, (4) an 0.5 percent decrease in new-car efficiency from the base case in 1983, and (5) a preliminary data adjustment factor. The "low demand" case is formed by subtracting from the high price forecast the square root of the sum of the squared decreases in demand resulting from decreases from the base case assumptions for heating degree-days, cooling degree-days, and income; and a 0.7 percent increase from the base case new-car efficiency in 1983.

For detailed information on the assumptions used in the forecast methodologies, please refer to the published report, Short-Term Energy Outlook, May 1983.

Copies of the report are available from:

National Energy Information Center  
Room 1F-048, Forrestal Building  
1000 Independence Avenue, S. W.  
Washington, DC 20585  
Telephone 202-252-8800

## Appendix D. CHANGE IN 1983 WEEKLY PETROLEUM STATUS REPORT SERIES

Some data series presented in the 1983 issues of the Weekly Petroleum Status Report (WPSR) are different from 1982 WPSR data series. The differences, which are discussed below, are the result of changes made in the 1983 weekly data collection forms of the Petroleum Supply Reporting System, a change in estimation methodology, and changes in the sample frame.

### Changes from Data Forms

In 1983, weekly petroleum supply forms collect data for finished motor gasoline production, stocks, and imports. This change means that the components of 1983 WPSR motor gasoline product supplied estimates are definitionally the same as the components of the monthly product supplied estimates calculated from monthly data. In 1982, weekly forms combined imports of motor gasoline blending components with finished motor gasoline imports in a single category: total motor gasoline imports. In 1983 imports of motor gasoline include finished product only. In 1983, weekly forms include imports of motor gasoline blending components in other oils imports. In the 1983 WPSR publication, the monthly other oils series for 1981 and 1982 (see p. 15) includes imports of motor gasoline blending components. In 1982, imports of motor gasoline blending components averaged 39 thousand barrels a day and ranged between 19 and 50 thousand barrels per day.

Kerosene production and stocks reports are not collected on 1983 weekly forms. Consequently, in 1983, the weekly other oils stocks estimate (pgs. 3 and 6) includes kerosene. Other oils product supplied, which is calculated for the WPSR as the difference between total product supplied and the product supplied of listed products, is larger in 1983 because it includes kerosene product supplied, which can no longer be calculated from weekly data (see p. 16). Kerosene stocks in 1982 ranged between 8.8 and 10.4 million barrels. The values of kerosene product supplied averaged 128 thousand barrels per day in 1982.

### Change in Methodology

In 1983, reports of crude oil used as fuel on leases are treated as reports of crude oil product supplied, a new product supplied category. Before 1983, crude oil used in this fashion was reported as a use of distillate fuel oil or residual fuel oil and was included in the respective product supplied calculations. Weekly estimates for product supplied made in 1983 do not include estimates for these quantities and are compared in the U.S. Petroleum Balance (p. 3) to recast 1982 data. The monthly series for 1981 and 1982 shown on p. 16 are the quantities originally calculated and published including crude oil used as fuel. In 1982, the quantities of crude oil used directly in the distillate fuel oil product supplied and residual fuel oil product supplied calculations averaged 10 thousand barrels per day and 48 thousand barrels per day, respectively.

### Change in Stock Basis

The list of operators of bulk terminals, pipelines, and crude stock holders required to report each month about crude oil and petroleum product stocks was updated in a regular review of the petroleum supply reporting frame during 1982. (See the article in the Petroleum Supply Monthly, March 1983 for details.) This expansion was first incorporated in monthly data published for January 1983. The new list of operators was also used to select new samples for EIA Forms 801 (bulk terminals), 802 (pipelines), and 803 (crude stock holders) of the weekly petroleum reporting system. The new weekly sample was used for estimation beginning with the week ending April 1, 1983. Estimates for the weeks between the end of January 1983 and April 1, 1983 were revised to reflect the contributions of the new frame members. The revisions were done by using information about the stocks held by the new and old reporters on December 31, 1982. The table below shows the new-basis stock levels for December 31, 1982 which can be compared with the old frame stock levels shown on the respective pages of the WPSR. The new-basis stocks of crude oil and petroleum products, including the Strategic Petroleum Reserve, are 2.2 percent greater than the old basis stocks.

New Basis Stock Levels for Crude Oil and Petroleum Products, December 31, 1982

	Percent Increase	U.S. Total	PAD 1	PAD 2	PAD 3 (Thousands of Barrels)	PAD 4	PAD 5
Crude Oil	0.0 <sup>1</sup>	643,871	17,550	78,566	453,697	13,491	80,577
Total Motor Gasoline	3.8	244,279	69,397	67,135	68,016	8,559	31,172
Finished Gasoline	4.1	202,537	64,116	57,903	51,182	6,086	23,250
Blending Components	2.0	41,742	5,281	9,232	16,834	2,473	7,922
Naphtha-Type Jet Fuel	26.9	7,189	1,384	1,310	2,367	349	1,779
Kerosene-Type Jet Fuel	2.6	32,001	9,626	7,310	9,004	638	5,423
Distillate Fuel Oil	3.9	185,579	84,681	48,221	34,921	4,051	13,705
Residual Fuel Oil	3.1	68,229	35,686	5,383	16,698	634	9,828
Unfinished Oils	0.0	105,277	13,656	17,784	46,209	2,686	24,942
Other Oils	7.1	175,592	22,073	49,714	90,142	3,757	9,906
Total Oils	2.2 <sup>1</sup>	1,462,017	254,053	276,413	721,054	34,165	177,332

<sup>1</sup> Calculated including stocks of crude oil in Strategic Petroleum Reserve (293,827 thousand barrels on December 31, 1982).  
Source: EIA, "Petroleum Supply Monthly."



## Appendix E. CALCULATION OF WORLD OIL PRICES (page 19)

The weighted average international price of oil, shown in the "Highlights" and on page 19, is an average calculated using specific crude oil prices weighted by the estimated crude oil export volume for each oil-producing country. To develop the table shown on page 19, a list of major oil producing/exporting countries was chosen. For each country, the official selling price of one or more representative crude oils was determined by investigating a number of industry publications (i.e., "Oil Buyers' Guide," "Platt's Oilgram Price Report," "Petroleum Intelligence Weekly," and "Europe Oil Prices") and by contacting oil market analysts.

Then, the appropriate crude oil volumes to be used as weighting factors for each country were determined. These volumes are estimates based on a number of sources which provide data on production, consumption, and exports for these countries. Export volumes for a number of smaller producing/exporting countries, not listed in the table, are included in the weighting factors. After the export volumes had been determined, simple mathematical weighted averages were calculated to arrive at the "Total OPEC," "Total Non-OPEC," and "Total World" prices.

The average United States (FOB) import price is derived by the same basic procedure as the world oil price, that is, taking the representative official crude oil price of a specific crude oil from a particular country and weighting this price by a certain volume of crude oil. In this case, the weighting factors are the volumes of crude oil imported into the U.S. from pertinent countries. Import volumes from a number of smaller producing/exporting countries, not listed in the table, are included in the weighting factors.

Both the import and export volumes are preliminary. Due to their origin, these estimates cannot be fully verified. These volumes are updated monthly, or more frequently when changes in oil market conditions make updating appropriate.

## Glossary

- **Barrels.** 42-gallon barrels.
- **Crude Oil.** A mixture of hydrocarbons that existed in liquid phase in underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Lease condensate and drips are included but topped crude oil (residual) and other unfinished oils are excluded.
- **Crude Oil Inputs.** The total crude oil put into processing units at refineries.
- **Distillate Fuel Oils.** Includes No. 1, No. 2, and No. 4 fuel oils, and No. 1, No. 2, and No. 4 diesel fuels. These are light fuel oils used primarily for home heating as a diesel engine fuel (including railroad engine fuel and fuel for agricultural machinery), and for electric power generation.
- **Gross Inputs.** The crude oil, unfinished oils, and natural gas plant liquids put into distillation units.
- **Imports.** Unless otherwise specified in this report, refers to gross imports. Imports of minor products ("other oils") include aviation gasoline, kerosene, unfinished oils, liquefied petroleum gases, plant condensate, petrochemical feedstocks, lube oils, waxes, special naphthas, coke, asphalt, blending components, and other miscellaneous oils.
- **Jet Fuel.** Includes kerosene-type jet fuel and naphtha-type jet fuel. Kerosene-type jet fuel is a kerosene quality product used primarily for commercial turbojet and turboprop aircraft engines. Naphtha-type jet fuel is a fuel in the heavy naphthas range used primarily for military turbojet and turboprop aircraft engines.
- **Motor Gasoline.** Finished leaded gasoline, finished unleaded gasoline, and blending components in the gasoline range. Production and imports data represent finished leaded gasoline and finished unleaded gasoline. Stocks data consist of the two types of finished gasoline and blending components. Stock change used in the calculation of motor gasoline product supplied is the change in finished motor gasoline stocks. Imports of motor gasoline blending components are contained in other oils imports.
- **Operable Capacity.** The amount of crude oil distillation capacity that, at the beginning of the month, is in operation; or is not in operation and not under active repair but capable of being placed in operation within 30 days; or is not in operation but under active repair that can be completed in 90 days.
- **Refinery Capacity Utilization.** Ratio of the total amount of crude oil, unfinished oils, and natural gas plant liquids run through crude oil distillation units to the operable capacity of these units. In the period 1979-1982 the refinery capacity utilization for all U.S. refineries ranged between 87 percent and 65 percent. The ratio for an individual refinery may fluctuate much more depending on the type of crude and other raw materials processed, the type of products produced, and the operating conditions of the refinery.
- **Residual Fuel Oils.** Includes No. 5 and No. 6 fuel oils which are heavy oils used primarily for electric power generation, for industrial and commercial space heating, as a ship fuel, and for various industrial uses.
- **Retail Motor Gasoline Prices.** Motor gasoline prices calculated each month by the Bureau of Labor Statistics (BLS) in conjunction with the construction of the Consumer Price Index (CPI). These prices are collected in 85 urban areas selected to represent all urban consumers—about 80 percent of the total U.S. population. The service stations are selected initially, and on a replacement basis, in such a way that they represent the purchasing habits of the CPI population. Service stations in the current sample include those providing all types of service (i.e., full-, mini-, and self-service).
- **Stocks.** For individual products in WPSR, quantities held at refineries, in pipelines, and at bulk terminals with a capacity over 50 thousand barrels. Stocks held by product retailers and resellers, as well as tertiary stocks held at the point of consumption, are excluded. Stocks of individual products held at gas processing plants are excluded from individual product estimates but included in "Other Oils" estimates and "Total."
- **Stock Change (Refined Products).** Component of Product Supplied calculation shown on U. S. Petroleum Balance. The product stock change shown on the U.S. Petroleum Balance Sheet for the current 4-week period is calculated in the following way: an average daily stock change is calculated for major refined products (i.e., all actual reported stocks); this stock change is added to an estimate for minor product stock change based on historical monthly data; a daily average stock change for refined product stocks for the 4-week period is then calculated. To calculate minor product stock change, the stock levels shown for other oils in the stock section of the balance sheet are used. These other oils stock levels are derived by: 1) computing an average daily rate of stock change for each month based on monthly data for the past six years; 2) using this daily rate and the minor stock level from the most recent monthly publication to estimate the minor product stock level for the current period.
- **Unaccounted-for Crude Oil.** Term which appears in U.S. Petroleum Balance Sheet. It reconciles the difference between data (or estimates) about supply and data (or estimates) about use. Its value can be positive or negative since it is a balancing term. As it appears in the monthly publications, it reflects the accuracy of the reported data on crude oil imports, production, stocks, refinery input, losses, exports, and transfers (crude oil burned directly as fuel oil). It reflects the quality of the estimates as well as the accuracy of the reported data. Because the unaccounted for crude oil figure reflects the accuracy of reported and estimated figures, one would expect the figure to be larger in balances using preliminary or estimated data and smaller in balances using the final data. In fact, the published figures confirm this expectation. In the WPSR, four-week averages for the previous year are interpolated from final monthly data, so that the unaccounted-for crude oil value for the previous years is considerably smaller than that for the current period.
- **United States.** For the purpose of this report, the 50 states and the District of Columbia. Data for the Virgin Islands, Puerto Rico, and other U.S. territories are not included in the U.S. totals.

